Admission as an undergraduate:
Bernadette Montoya, Asst VP/Enrollement Management
Enrollment Management, MSC 3EM
New Mexico State University
P O Box 30001,
Las Cruces, NM 8803-8001 (575) 646-5882

Admission to the Graduate School:
Linda Lacey, Dean
Graduate School, MSC 3G
New Mexico State University
P O Box 30001
Las Cruces, NM 8803-8001 (575) 646-2736

Transfer of transcripts and determination of residency:
Michael R. Zimmerman, Registrar
Office of the Registrar, MSC 3AR
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-3411

Housing for single and married students:
Julie Weber, Director
Housing, MSC 3BB
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-3202

Scholarships, loans, work-study programs:
Lydia Bruner, Interim Director
Financial Aid, MSC 5100
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-3202

Part-time employment while a student:
Steven S. Salway, Director
Placement and Career Services, MSC 3509
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4105

Student Accounts information:
Leland Kiehne, Director
University Accounts Receivable, MSC 4570
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575)646-4911

Cooperative Education Program:
Mary Berry, Coordinator
Cooperative Education Programs, MSC 3509
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4115

Vocational guidance or personal counseling:
John S. Irvine, Director
Counseling Center, MSC 3575
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-2731

Active Military and Veterans Education Benefits:
Active Military- Military Coordinator for Student Success
College of Extended Learning, MCS 3WEC
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4524

Veterans-Eva Armijo
Office of Veteran Educational Benefits, MSC 4740
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4524

Ethnic Programs information:
Justin McHorse, Director
American Indian Program, MSC 4188
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4207

Festus Addo-Yobo, Director
Black Programs, MSC 4188
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4208

Laura G. Spencer, Director
Chicano Programs, MSC 4188
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4206

Honors Program information:
Bill Eamon, Dean
Honors College, MSC 3HON
New Mexico State University

Cooperative Education Program:
Mary Berry, Coordinator
Cooperative Education Programs, MSC 3509
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4115

Vocational guidance or personal counseling:
John S. Irvine, Director
Counseling Center, MSC 3575
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-2731

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College of Extended Learning, MCS 3WEC
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4524

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P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4208

Laura G. Spencer, Director
Chicano Programs, MSC 4188
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-4206

Honors Program information:
Bill Eamon, Dean
Honors College, MSC 3HON
New Mexico State University

P O Box 30001
Las Cruces NM 8803-8001 (575) 646-2005

Crimson/Centennial Scholars Program information:
Yvonne Flores, Coordinator
Crimson/Centennial Scholars Program, MSC 3HON
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-2542

Distance Education and Weekend Courses:
Kitty Berver, Distance Education and Continuing Education Director
College of Extended Learning, MSC 3WEC
New Mexico State University
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-5872

Corbett Center/Campus Information:
Kate Fahrbach, Director
Corbett Center Information Desk
MSC CC
New Mexico State University
P O Box 30004
Las Cruces NM 8803-0004 (575) 646-4411

NMSU Community Colleges:
Cheri Jimeno, President
Alamogordo Campus (575) 437-6860
Russell Hardy, President
Carlsbad Campus (575) 885-8831
Margie C. Huerta, President
Doña Ana Campus (575) 527-7510
Felicia Casados, President
Grants Campus (505) 287-7981

Flexible and Individualized Degree Programs:
Kelley Hestir, College of Extended Learning Advisor and Academic Program Coordinator
College of Extended Learning, MCS 3WEC
P O Box 30001
Las Cruces NM 8803-8001 (575) 646-3142

Post office address for New Mexico State University is Las Cruces, New Mexico 8803-8001.
Mail service for box patrons is provided by a branch post office located on campus. Telephone service is through the Las Cruces telephone exchange, (575) 646-0111.
NEW MEXICO
STATE UNIVERSITY

Undergraduate Catalog 2009-2010

Academic programs at
New Mexico State University are
available to all students without
regard to age, ancestry, color,
disability, gender, national origin,
race, religion, sexual orientation,
or veteran status.

Any item in this catalog
is subject to modification at any time
by proper administrative procedure.

Catalog effective summer 2009 through spring semester 2014.

The NMSU Undergraduate Catalog is available online at www.nmsu.edu.
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GENERAL INFORMATION

THE UNIVERSITY

New Mexico State University (NMSU) is the state's land-grant university, serving the educational needs of New Mexico's diverse population through comprehensive programs of education, research, extension education, and public service. NMSU was founded in 1888 as Las Cruces College and later renamed New Mexico College of Agriculture and Mechanic Arts. In 1960, the constitution of New Mexico formally recognized the institution as NMSU. Throughout its history, the university has preserved many of the traditions of its land-grant origin while also increasing emphasis on the fine arts, humanities, social and natural sciences. Today, NMSU is a major institution of higher education.

ADMISSIONS

A student may be accepted for undergraduate admission to NMSU as (1) a degree-seeking student or (2) a nondegree student under the policies and conditions as set forth in this section.

Regular Admission (First time any college)

Requirements for admission as a regular student include the following:

- Formal application for admission, accompanied by a $20 nonrefundable application fee.
- An official transcript of the student’s high school credits is to be sent directly from the high school to the Admissions Office.
- Official results of the American College Testing Program (ACT) or Scholastic Aptitude Test (SAT) are to be sent directly from the Testing Centers to the Admissions Office.
- Qualifications for undergraduate admission to NMSU are as follows:
  - Graduation from any state high school or academy in the United States accredited by a regional accrediting association or approved by a state department of education or state universities.
  - Meet the minimum high school unit requirements listed below and have a high school grade-point average of at least 2.0 and ACT standard composite score of at least 20; or high school grade-point average of at least 2.5; or ACT standard composite score of at least 21.

The following high school unit requirements became effective with the class of 1991:

<table>
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<tr>
<th>Subject</th>
<th>Units Required</th>
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<tr>
<td>English</td>
<td>4 units*</td>
</tr>
<tr>
<td>Science</td>
<td>2 units beyond general science</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3 units**</td>
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<td>Foreign languages or fine arts</td>
<td>1 unit</td>
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* Must include at least 2 units of composition, one of which must be a junior or senior-level course.

** From algebra I, algebra II, geometry, trigonometry, or advanced math.

- First-time freshmen who do not meet the regular admission requirements will be refused admission and can appeal to the Admission Appeals Committee. For more information, contact the Office of University Admissions.

Provisional Admission

A new student, other than a transfer student, who does not meet requirements for regular admission may be admitted under the provisional program. To be admitted to provisional status, students must:

1) have a minimum high school grade-point average of 2.25 and ACT composite score of 19 and meet all the minimum high school unit requirements listed above or
2) have met all but one of the minimum high school units listed above and
   a) have a high school grade point average of at least 2.50 or
   b) have a high school grade point average of at least 2.00 and an ACT standard composite score of 20 or
   c) have an ACT standard composite score of at least 21. Such a student must take at least 6, but not more than 12 credits, in a regular semester, and at least 3, but not more than 6 credits, in a single summer session.

A provisional student earning a 2.0 grade-point average or higher in at least the minimum number of credits as stated above will be granted regular admission. Should the provisional student earn less than a 1.0 grade-point average in the first semester, further attendance will be denied.

A provisional student earning less than a 2.0 grade-point average, but more than a 1.0 grade-point average in at least the minimum number of credits as stated above, in the first semester may continue for one additional semester. However, a provisional student who fails to attain a 2.0 grade-point average during the second semester will be denied further attendance.

Home School Students

Students enrolled in a home school program may be accepted to NMSU if they meet the requirements for regular or provisional admission as previously stated. In addition, the home school educator must submit a transcript or document that lists the courses completed and grades earned by the student and also indicates the date the student completed or graduated from the home school program. The Lottery Success Scholarship requires completion of New Mexico GED testing.

ACCREDITATION

New Mexico State University has been accredited since 1926 by The Higher Learning Commission and is a member of the North Central Association. (NCA may be contacted at 30 North LaSalle St., Suite 2400, Chicago, IL 60602-2504 and (800) 621-7440.) The university was accredited in 1954 by the American Association of University Women. The university’s teacher preparation program, which involves several colleges and which is directed by the College of Education, was accredited in 1962 by the National Council for the Accreditation of Teacher Education.

The Division of Student Services has two accredited departments as well. The Counseling Center is fully accredited by the International Association of Counseling Services (IACS), and the Student Health Center is accredited by the Accreditation Association for Ambulatory Health Care (AAAHC).

Various academic departments and programs are accredited separately by independent accreditation agencies. These may be found at the beginning of each college chapter.
Basic Academic Skills and Admission

In order to succeed at their college studies, entering students are required to have basic skills in mathematics and writing befitting the university environment. Students are evaluated using ACT test scores or diagnostic testing at the time of registration to determine basic academic competency. Based upon this evaluation, the university will require entering students to correct deficiencies by completing coursework in English and mathematics before enrolling in courses numbered 300 and above.

Application Deadlines

Applications for admission as a regular student should be sent to the Admissions Office at least 30 days before the beginning of the regular semester or summer session for which the student intends to enroll. NMSU programs that have different deadlines for application are:

- Nursing
- February 1 (fall semester)
- September 1 (spring semester)

Admission by GED

Any student who has successfully completed the GED may apply for admission. The admission will depend upon satisfactory scores on the General Educational Development (GED) test and the American College Testing Program (ACT) test.

Dual Credit Program for High School Students

The Dual Credit Program is designed to give high school students an opportunity to enroll at NMSU prior to high school graduation. Students must be either a junior or senior in high school and enrolled in a New Mexico public school district. Under a Dual Credit Master Agreement between NMSU and the school district, students enrolled in approved dual credit courses would be eligible to have the full cost of tuition and general fees waived. Students who wish to enroll in non-approved dual credit courses would be responsible for all costs related to enrollment. High school students not enrolled in a NM public school may be eligible for enrollment as an Early Admission student. Early Admission students are responsible for all costs related to enrollment. Students must complete the Admission Application; provide official high school transcript and official ACT or SAT scores to the Admissions Office; and complete the Dual Credit Request form. Requirements to be admitted to the program are high school grade point average (GPA) of 3.0 or an ACT of 23 and substantial progress toward completion of the following high school courses: 4 units of English, 3 units of Math (Algebra I, Algebra II, Geometry), 2 units of Science (beyond General Science), 1 unit of a language other than English or a unit of fine art.

Western Undergraduate Exchange Program (WUE)

The Western Undergraduate Exchange Program (WUE) offers students a reduced tuition rate. Students from participating WUE states, who are eligible for regular admission to NMSU, will be charged up to 150% of regular resident tuition (i.e., 50% more than resident tuition), plus any fees that all students are required to pay. WUE states include Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

Readmission (Degree Seeking)

Former students of NMSU, or of one of its Community Colleges, who have been out of school for more than two consecutive terms are required to make formal application for readmission. Applications should be submitted to the Admissions Office at least 30 days before the opening of the semester or summer session for which the student plans to enroll.

A student who has attended other institutions during an absence must have official transcripts forwarded directly to the Admissions Office by the registrar of each institution and must be eligible to return to the college or university last attended. Transcripts must be received prior to the date of registration. Admission status at the time of readmission will normally be determined by previous NMSU academic standing. However, academic performance at other institutions attended during the applicant’s absence from NMSU may be taken into consideration in determining the student’s admission status.

NMSU Graduation and Retention Rates

These rates may be found on the NMSU Institutional Research web site at http://irpoa.nmsu.edu.

TRANSFER STUDENTS

Transfer students from other colleges or universities may be accepted for undergraduate studies if they have at least a 2.0 cumulative grade-point average and are eligible to return to the college or university last attended. Transfer students who have less than 30 credits have to meet first-time freshman admission requirements.

Transcripts

The transfer student must have official transcripts forwarded directly to the Office of University Admissions by the Registrar of each college or educational institution previously attended. The ACT or SAT may be required of students who have not earned credit for the first semester of college English. A student who conceals the fact that he or she has attended another college or university, and who has not had the registrar submit a transcript for each institution whether or not credit was earned, will be subject to immediate suspension. Transcripts must be received before the date of registration.

Transfer of Credits at NMSU

NMSU evaluates courses from postsecondary institutions that are regionally accredited or are candidates for regional accreditation. Transfer students will receive full credit for coursework completed with a grade of C or better, provided the classes are similar or equivalent to courses offered at NMSU. A transfer student may, on the basis of an evaluation of his or her transcripts, receive credit for courses taken at other institutions in which a grade of D was received. However, NMSU does not accept the transfer of courses with D grades that satisfy basic academic competency (basic skills) in English and mathematics.

NMSU will not accept transfer credit for 4 credit basic skills courses (such as ENGL 111G and CCDM 114N) when the incoming course carries less than 3 credit hours. Also, colleges or departments may choose to accept only courses graded C or higher in their programs for both transfer and native students. Any lower-division course from another institution receiving transfer credit from NMSU at the 300 or above level will still count as a lower-division course. Transcripts will be reevaluated when students transfer from one NMSU college to another.

Each college determines which transferred courses are applicable toward a degree or a minor.

Grades earned in courses taken at other institutions are not included in the calculation of the NMSU GPA, except for grades earned by approved National Student Exchange students.

Community/Junior College Transfers

Community/junior college transfer students may be admitted and classified on the basis of acceptable credits earned at a two-year institution. However, transfer students are subject to the same graduation requirements as other NMSU students, including the required minimum number of credits from courses numbered 300 or above and the requirement that the last 30 credits must be earned through this university.

Evaluation of Transfer Credits

Once a student has been admitted to NMSU, an evaluation of credits on a course-by-course basis is submitted to the college (by the Registrar’s Office) to which the student is admitted. The student’s academic dean approves those transfer courses that are acceptable toward a degree or a minor.

Credits from non-accredited institutions may be evaluated by the student’s academic dean after the student has completed two semesters in full-time status with satisfactory grades.

Currently enrolled students must obtain prior approval from their academic dean before work taken at another institution may apply toward meeting graduation requirements.

Religious Center Courses in Religion

Courses in religion, offered by the various religious centers through higher educational institutions with which they are affiliated, are open to all students, and these or similar courses from other universities may be transferred for credit to this university. If a student wishes to have earned credits transferred to NMSU, the following procedures must be observed:

- Obtain written approval from the academic dean prior to registration for the course at the religious center
- Count the credit in the course as part of the total semester load
- Following completion of the course, request that the institution granting the credit send a transcript of the credit to the registrar at NMSU
Registration for these courses in religion is separate from NMSU’s registration and is conducted by the religious center offering the course.

Not more than 6 credits in such courses may be transferred to NMSU.

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 adviser at that particular institution to determine the most appropriate course selections. Students enrolling for the first year of 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 web site at www.hed.state.nm.us. Courses are listed by institution, whether university or community college, under each of the five general education areas. The courses for New Mexico State University are listed in the required courses section of this catalog.

Transferring Courses Within Degree Programs

To facilitate the transfer of courses within certain degree programs, New Mexico colleges and universities have collaborated to develop transferable discipline modules. These are made up of an agreed upon number of hours and courses. When discipline module courses are taken in addition to the 35 hour general education core, the total number of hours in a transfer module are approximately 64.

For information on the transferable discipline module for Business, see the College of Business chapter. For information on the transferable discipline module for Early Childhood Education chapter. Information on all available statewide transfer modules can be found on the New Mexico Higher Education Department web site at www.hed.state.nm.us.

Student Responsibility

Planning for effective transfer within 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 coursework will meet the requirements of the desired degree.

Transfer Credit Appeal Process

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 coursework from other public institutions in the state. A copy of NMSU’s transfer credit policy may be obtained from the Office of the Registrar or from the Deputy Secretary for Academic Affairs, Higher Education Department, New Mexico School for the Deaf Campus, 1008 Cerrillos Road, Santa Fe, New Mexico 87505-1650.

National Student Exchange (NSE)

Courses transferred back to NMSU by students participating in the National Student Exchange (NSE) Program will be evaluated as NMSU courses and recorded on the student’s academic record. All computable grades earned will be included in calculating the student’s cumulative grade-point average.

Out-of-State Students and Legal Jurisdiction

By applying for admission/enrollment, both the student and parents agree that New Mexico law prevails and all litigation will be in federal court in New Mexico or in state court in Doña Ana County, New Mexico.

NONDEGREE ADMISSION

Nondegree admission is designed to meet the needs of mature, part-time students who do not wish to pursue a degree at this university. Courses taken in this status may not be used to meet university admission requirements.

Students on nondegree status are not eligible to receive financial aid or student employment; nor are they eligible to participate in student government or intercollegiate athletics; nor are they eligible to receive benefits from any veterans’ program.

Students interested in using nondegree credit for initial teacher certification or recertification in a new field need to contact the College of Education. Transcripts from previous institutions, high school, and/or results of college entrance exams may be required to assure readiness for university-level courses. A $20 non-refundable, non-degree application fee is required. Nondegree students may not transfer more than 30 credits from this status to any undergraduate degree program with the exception of students participating in a high school concurrent enrollment program.

Nondegree students are subject to the same university regulations as regular students.

Changing from Nondegree Status

A nondegree student in good academic standing at NMSU may apply for change of status from nondegree to regular. Requirements for regular admission must be met.

Auditing Courses

Students who wish to audit courses may do so as nondegree students with the consent of the instructor, provided the facilities are not required for regular students. Regular students may also audit courses, but audited courses are not counted in determining maximum course loads, except for students on probation or graduate students.

INTERNATIONAL STUDENTS

The general policies of the university as outlined in this catalog apply to international as well as domestic students. However, some special policies are necessitated by federal laws applicable only to international students.

A international student is any individual attending NMSU while present in the United States on a non-immigrant student visa. Legal immigrants or refugees must present documentation of their status either to Admissions or to the International Student Services (ISS) Office.

U.S. Citizenship and Immigration Services (USCIS)

Some of the more important rules as established by the United States Department of Homeland Security are:

1. Each student must maintain full-time student status for both the fall and spring semesters.
2. International students may not work off campus without authorization. On-campus employment may be authorized under certain conditions.
3. All international students must maintain an up-to-date record in the Immigration and Naturalization Service (INS) file. This record must indicate the student’s current address and local phone number.
4. Prior to admission, a prospective international student must demonstrate the following:
   • Academic ability to succeed in the chosen course of study;
   • Adequate financial support to complete the chosen course of study; and
   • Adequate command of the English language to maintain legal status as a full-time student for the fall and spring semesters.

UNIVERSITY PROCEDURES FOR INTERNATIONAL STUDENTS

Scholastic Ability

1. Prospective undergraduates must have completed a minimum of 12 years’ schooling and/or submit official diploma or completion certificate.
2. Official transcripts showing the classes taken and grades earned for the school years 10, 11, and 12 must be submitted. No hand-carried documents will be accepted unless received in a sealed envelope.
3. The scholastic average for the last three years of high school must be equivalent to 2.5. International students are not admitted on a provisional or probationary basis.
4. Graduation from a high school in the United States does not automatically qualify an international student for admission to NMSU. The student must also submit official transcripts from his or her international secondary school.
Financial Support
1. Each prospective international student must submit a current financial support document with his or her application.
2. This document must show that (a) the person providing the financial support has the necessary funds, and (b) the funds can be transferred from the student’s home country to the United States.

No financial aid is available from NMSU. The university reserves the right to demand advance deposit of funds for any period deemed reasonable prior to granting admission. An international student can never qualify for residency and must pay nonresident fees.

English Language Proficiency
NMSU requires a score of 500 (paper-based)/173 (computer-based)/61 (internet-based) or better on the Test of English as a Foreign Language (TOEFL), or a score of 5.0 on the International English Language Testing System (IELTS), for all international students, both nondegree and degree seeking. International students may also demonstrate English proficiency by satisfactorily completing NMSU’s Center for Intensive Training in English (CITE) programs. A waiver of the TOEFL requirement may be considered for:
1) Students who are native speakers of English.
2) Students completing high school in the United States who (a) have attended the high school for at least two full semesters and (b) have scored in at least the 75th percentile in English on the ACT.
3) Students transferring from a junior college, or university in the United States who have earned a minimum of 30 acceptable semester credits (45 acceptable quarter credits) with a GPA of 2.5 or better. “Acceptable credit” means classes that require a high proficiency in both written and oral English.
4) Students demonstrating English-language proficiency using methods accepted by International Programs.
5) Students enrolling in certain programs where English language proficiency is not required.

The university reserves the right to require any prospective international student to meet the TOEFL requirement.

For complete information concerning the TOEFL examination, applicants should review the following web site: www.toefl.org

NMSU conducts an Intensive English Language Program for undergraduates and graduate students pursuing degree programs at NMSU. International students are not admitted to the university for the sole purpose of studying English.

Prior to enrollment, each international student is administrated an Academic English Proficiency Test. Based on the results, the student is either assigned to one of the special English classes for international students or is excused from special English instruction. International students excused from SPCD 111G are excused from the TOEFL or IELTS, and proof of adequate financial support should be on file in the International Programs Office by the following suggested dates:

- March 1st for fall semester
- October 1st for spring semester

Contact the academic department for specific deadlines.

Miscellaneous Regulations
1. All international students are required to have coverage at the Student Health Center except when the Las Cruces campus Student Health Center is not available to them.
2. All international students must have health insurance. Students who do not purchase insurance from NMSU must present evidence of similar coverage to the IP Office. Students without insurance will not be allowed to register.
3. Upon arrival on campus new international students are not permitted to register until all IP requirements are met, including attending orientation and taking the English screening examination. All international students, therefore, are required to report to the appropriate office on their campus.

- Las Cruces campus: International Student Services, Educational Services, Room 8
- Doña Ana Community College: International Programs, Garcia Annex, Room 238
- Alamogordo Community College: Office of Student Services, Student Service Building, Second Floor
- Carlsbad Community College: Office of Student Services, 150 University Drive, Room 111
- Grants Community College: Office of Student Services, Walter Martinez Building, Main Office Complex

4. Undergraduate students are required to carry at least 12 credits per semester.

COSTS

All costs are given for one semester or summer session. The university reserves the right to change any of the charges without notice. Below rates are 2009-2010 amounts; rates subject to change.

TUITION AND REQUIRED FEES

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate New Mexico Residents</th>
<th>Undergraduate Non-Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall or Spring Semester</td>
<td>12-18 credits (full-time)</td>
<td>$2,498.00</td>
</tr>
<tr>
<td></td>
<td>7-11 credits, per credit or over 18 credits</td>
<td>208.25</td>
</tr>
<tr>
<td></td>
<td>1-6 credits, per credit</td>
<td>208.25</td>
</tr>
<tr>
<td>Tuition and fees for auditing classes are the same as above. Short courses, workshops, and institutes are treated as separate sessions with varied credit rates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer Session</td>
<td>All Students</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 to 12 credits (full-time)</td>
<td>$1,674.25</td>
</tr>
<tr>
<td></td>
<td>Each credit over 12</td>
<td>208.25</td>
</tr>
<tr>
<td></td>
<td>1-8 credits, per credit</td>
<td>208.25</td>
</tr>
<tr>
<td>Tuition and fees for auditing classes are the same as above. Short courses, workshops, and institutes are treated as completely separate sessions with varied credit rates.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GENERAL FEES
Application for Admission (must be submitted with application and is
nonrefundable ................................................................. $15.00
International Student Admission Fee .................. 50.00
ASNSMU Part-Time Fee (1-11 hrs.) ..................... 33.50
Summer ASNSMU Part-time fee .......................... 12.40
Graduation Fees Certificate ................................. 10.00
Bachelor’s/Associate’s ............................................... 25.00
Graduate Degree ...................................................... 35.00
Late Filing Fee ........................................................... 25.00
Late Registration Fee Base Cost ......................... 25.00
Examination fee (applies to students not enrolled during a semester/session in
which examination is taken) .................................................... 208.25

**COURSE FEES (fees assessed per course)**

See each semester’s Schedule of Classes for lists of courses with additional fees.

Applied Music courses - see “Other Music Requirements” under the
Music section of the Arts and Sciences chapter.

**MANDATORY INTERNATIONAL STUDENT FEES**

All international students are required to have Student Health Center
coverage and purchase the student accident and sickness insurance, unless
otherwise covered by comparable health and accident insurance approved by
International Programs. International students will be required to purchase
health insurance for spring and summer during spring registration, unless they
have applied for spring graduation.

**OPTIONAL FEES**

Health/Activity Fee

The Health/Activity Fee is included in tuition for full-time students. Options
for part-time students enrolled at Las Cruces campus for 6 or more credits during a
regular semester or 3 or more credits during a summer session include:

<table>
<thead>
<tr>
<th>Fee Option</th>
<th>Fall/Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health/Activity Fee</td>
<td>$98.00</td>
<td>$78.00</td>
</tr>
<tr>
<td>Activity Fee Only</td>
<td>42.00</td>
<td>22.00</td>
</tr>
<tr>
<td>Health Fee Only</td>
<td>61.00</td>
<td>54.00</td>
</tr>
</tbody>
</table>

The Health Fee option grants access to the Student Health Center and can be exercised
at any time during the semester or summer session. Students who use the
health center are required to complete a Medical History Form and return the
completed questionnaire to the Director, Student Health Center, Box 30001, MSC
3529 New Mexico State University, Las Cruces, NM 88003-8001. Forms may be
obtained at the Student Health Center.

Supplemental Health Insurance

Students, who have access to the Student Health Center, may choose to
purchase a commercial insurance policy endorsed by NMSU. This insurance is
intended to supplement the Student Health Center service. Students may pur-
chase dependent coverage under this commercial insurance company policy;
however, dependents of students are not eligible to use the Student Health Cen-
ter. This insurance must be purchased by the last date of late registration.

**Housing Services**

See “Auxiliary Services” section for room descriptions, accommodations,
application process, deposit requirement, regulations, and eligibility.

<table>
<thead>
<tr>
<th>Fee Option</th>
<th>Fall/Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Occupancy (Monagle)</td>
<td>$1,650.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Double Occupancy (Garcia Hall)</td>
<td>1,814.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Double Occupancy (Pinon)</td>
<td>2,019.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Double Occupancy, Suite Bath(RGH)</td>
<td>1,728.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Double Occupancy, Community Bath(RGH)</td>
<td>1,543.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Single Occupancy (Garcia)</td>
<td>2,902.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Single Occupancy (Monagle)</td>
<td>2,640.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Single Occupancy, Suite Bath(RGH)</td>
<td>2,765.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Single Occupancy, Community Bath(RGH)</td>
<td>2,470.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Four Bedroom Apartment (Chamisa Village)</td>
<td>1,872.00</td>
<td>1,317.00</td>
</tr>
<tr>
<td>Four Bedroom (Chamisa Village)</td>
<td>2,293.00</td>
<td>1,613.00</td>
</tr>
<tr>
<td>Two-Bedroom Apartment (Cervantes Village)</td>
<td>1,962.00</td>
<td>1,394.00</td>
</tr>
<tr>
<td>Two-Bedroom Private Apartment (Cervantes Village)</td>
<td>2,973.00</td>
<td>2,091.00</td>
</tr>
<tr>
<td>Two-Bedroom Apartment (Vista del Monte)</td>
<td>2,119.00</td>
<td>1,490.00</td>
</tr>
<tr>
<td>Two-Bedroom Private Apartment (Vista del Monte)</td>
<td>3,179.00</td>
<td>2,236.00</td>
</tr>
</tbody>
</table>

Two-Bedroom (Chamisa Village) 2,620.00 1,843.00
Efficiency Apartment (Cervantes Village) 2,046.00 1,439.00
Graduate Community per month (Vista del Monte) 765.00 765.00
Student Family Housing (per month) 597.00 597.00
Family Housing Four-Bedroom (Cervantes Village, per month) 811.00 811.00

**Dining Services**

See “Housing and Residential Life” section for meal plan descriptions,
application process, deposit requirement, regulations, and eligibility.

<table>
<thead>
<tr>
<th>Fee Plan</th>
<th>Fall/Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meal Plan A</td>
<td>$1,355.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Meal Plan B</td>
<td>1,355.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Meal Plan C</td>
<td>1,355.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Late Registration Penalties**

A late registration or late payment penalty of $25 will be assessed if reg-
istration and payment or arrangements for payment have not been completed by
the deadline as shown by the university calendar. Failure to make payment
arrangements with the Business Office at the time of registration may result in
additional liability.

**PAYMENT OF CHARGES**

Payment of charges can be completed with the Business Office by paying in
full, arranging a deferred payment plan, processing a Financial Aid deferment,
or third-party payment agreement. Course reservations may be cancelled if pay-
ment arrangements are not completed by the deadlines outlined in the current
class schedule. Graduate assistants may opt to have tuition and fees deducted from
their university payroll by requesting to participate each semester in a pay-
roll deduction authorization plan.

Payments can be made by mail, web, telephone, or in person at the Business
Office. Cash, checks, money orders and limited types of credit cards are
accepted.

Students requesting a deferred payment plan arrangement must initially
pay ten percent of tuition charges, with the balance due in four equal monthly
installments within the semester. Summer sessions have one installment within
the session. A carrying charge of $20.00 will be a one-time fee assessment for
students using the deferred-payment plan. Any financial aid received must be
paid towards balances owed. Additional penalty charges may be assessed for
failure to make payments when due. The university reserves the right to deny a
deferred payment plan to any student who has a poor credit rating or who has
been negligent in making payments to the university for previous debts.

The university reserves the right to cancel the registration of any student
who fails to pay, when due, any indebtedness to the university. Academic cred-
its, transcripts, and diplomas will be withheld until all financial obligations are
paid. Students are prohibited from registering for a semester until all previous
semester accounts are paid in full.

**TUITION ADJUSTMENTS, REFUND, AND FORFEITURES**

Any student officially dropping or withdrawing from a course or courses
during a semester or summer session may receive tuition and fee adjustments
as outlined in the current class schedule. No tuition adjustments will be made on
classes of less than five weeks’ duration. Non-attendance does not constitute
official course drop or withdrawal. All charges due to the university must be
paid before refunds will be permitted.

In cases of academic or disciplinary suspension, eligibility for tuition
adjustments will depend on the conditions of the suspension and will be entirely
at the option of the university. Should unforeseen circumstances beyond the
reasonable control of the university result in curtailment of classes, closing residence
facilities, or otherwise withdrawing services that are a normal function of NMSU,
refunds of any nature will be at the discretion of the university administration.

Residence hall rentals and dining hall charges may be refunded in accor-
dance with schedules adopted by these departments.

**DISHONORED CHECKS/CREDIT CARDS**

The university charges a penalty on all dishonored cash instruments.
Personal checks will not be accepted from students who have had previously
dishonored checks.
ESTIMATING OTHER EXPENSES
In addition to the direct costs stated above, other expenses per semester may include such items as textbooks and supplies (estimated at $300) and personal expenses (estimated at $400).

COOPERATIVE EDUCATION
A one-time registration fee of $15 is required of students participating in the Cooperative Education Program. During school phase, students pay the same tuition and fees as regularly enrolled students. Work phase students who are assigned to campus or nearby off-campus workstation pay the student health fee and/or the student activity fee. Students receiving academic credit during a work phase will also pay applicable tuition.

RESIDENT, NONRESIDENT STATUS
Resident or nonresident status is determined in accordance to a uniform definition established for all New Mexico institutions by the Higher Education Department, State of New Mexico. The NMSU Registrar’s Office administers residency.

Members of the Armed Forces, their spouses and minor children, not otherwise entitled to claim residency, are eligible for tuition payment at the resident student rates upon presentation of a certification from their commanding officer of assignment to active duty within New Mexico. Certification is required upon initial registration.

Information on the following programs may be obtained from the Office of Admissions:
- Residents of Texas who reside in Texas within 135 miles of the NMSU-Las Cruces campus may be eligible for a special tuition rate for the Las Cruces campus only.
- American Indian nations, tribes and pueblos. All out of state members of an American Indian nation, tribe, and pueblo, located wholly or partially in New Mexico, regardless of the residence of the member prior to acceptance at a post-secondary educational institution shall be eligible to pay the in-state tuition rate. These include members of the following tribes or pueblos: Jicarilla Apache, Mescalero Apache, Taos pueblo, Picuris pueblo, Ohkay Owingeh, Santa Clara pueblo, Nambe pueblo, Navajo tribe, San Ildefonso pueblo, Pojoaque pueblo, Tesuque pueblo, Cochiti pueblo, Jemez pueblo, Santo Domingo pueblo, San Felipe pueblo, Zia pueblo, Santa Ana pueblo, Sandia pueblo, Isleta pueblo, Laguna pueblo, Acoma pueblo, Zuni pueblo, and the Ute Mountain tribe.
- The Western Undergraduate Exchange program (WUE) allows students in western states to enroll in four-year college programs at the reduced tuition rate of 150 percent of the institution's regular resident tuition.

Students interested in dentistry, veterinary medicine, occupational therapy, optometry, osteopathy, podiatry, forestry, graduate library studies, graduate nursing education, and public health should see the paragraph on Western Interstate Commission for Higher Education in the “Student Services” section.

VETERAN STUDENTS
Tuition and fees of students enrolled under the following programs are responsible for their tuition and fees by the student in the same manner as a nonveteran student:
- Montgomery GI Bill—Active Duty (CH30)
- Dependents (CH35)
- Montgomery GI Bill—Selected Reserve (CH1600)
- Reserve Educational Assistance Program (REAP)
- Tuition and fees of students enrolled under the Vocational Rehabilitation Program (CH31) will be paid by the department of Veterans Affairs under contract with the university.

STUDENT ACCIDENT AND SICKNESS INSURANCE
All full-time students may purchase an additional accident and sickness policy to supplement the Student Health Center service. Part-time students enrolled for 6 or more credits may purchase the additional accident and sickness policy provided they have paid the health fee.

FINANCIAL AID
The mission of the Office of Student Financial Aid and Scholarship Services is to improve access to higher education by providing comprehensive financial assistance and information to all students and the NMSU community. NMSU, the federal government, and the state of New Mexico all contribute to assist students and their families in pursuing higher education.

The financial aid office administers a broad spectrum of loans, grants, jobs, and scholarships in an attempt to meet the financial needs of the university’s students.

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

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

Students applying for financial aid should complete a FAFSA by visiting http://fa.nmsu.edu or www.fafsa.ed.gov.

Please refer to the NMSU Financial Aid web site for more information on financial aid available in the financial aid office. A complete listing of programs and policies is available at http://fa.nmsu.edu.

GENERAL ELIGIBILITY REQUIREMENTS
To receive financial aid you must demonstrate the following:
- Have financial need, except for some loan and work-study programs.
- Have a high school diploma or a General Education Development (GED) Certificate, pass a test approved by the U.S. Department of Education, meet other standards your state establishes that are approved by the U.S. Department of Education, or complete a high school education in a home school setting that is treated as a home school or private school under state law. See your financial aid administrator for more information.
- Be enrolled or accepted for enrollment as a regular student working toward a degree or certificate in an eligible program. (You may not receive aid for correspondence or telecommunications courses unless they are part of an associate’s, bachelor’s, or graduate degree program.)
- Be a U.S. citizen or eligible noncitizen (state funded scholarships are available to undocumented students).
- Have a valid Social Security number. If you don’t have a Social Security number, you can find out more about applying for one at www.ssa.gov.
- Make satisfactory academic progress (SAP).
- Sign a statement on the FAFSA certifying that you will use federal student aid only for educational purposes.
- Sign a statement on the FAFSA certifying that you are not in default on a federal student loan and that you do not owe money back on a federal student grant.
- Register with the Selective Service, if required.

SOURCES OF FINANCIAL AID
Grants—The foundation for financial aid is the Federal Pell Grant, a federal grant available to undergraduate students with documented financial need. Pell Grants range from $400 to $4,731, though these figures are subject to change each year. If a Pell Grant is insufficient to pay educational expenses, the student may be eligible to receive other types of aid, including a Federal Supplemental Educational Opportunity Grant or Leveraging Education Assistance Partnership Program Grant, and/or other miscellaneous grants. These grants are awarded to undergraduate students who show exceptional financial need. For more information, contact the Office of Student Financial Aid and Scholarship Services or visit the university’s scholarship website at: http://fa.nmsu.edu/sch.html. Typically, all three types of grants do not have to be repaid.
Loans—Available to undergraduate and graduate students with financial need. Federal Perkins Loans are long-term, low-interest loans that must be repaid to the university according to federal guidelines. Repayment begins nine months after graduation or after enrollment drops below 6 credits.

Subsidized and unsubsidized Federal Stafford Loans are need-based, long-term loans available to undergraduate and graduate students. Students receiving a subsidized or unsubsidized Federal Stafford loan or a Perkins, must complete a credit-management session before NMSU will issue the funds. In addition, students must complete an exit interview upon graduation or withdrawal from the university. Repayment of a Stafford loan begins six months after graduation or six months after enrollment drops below 6 credits. The interest rate is variable but will not exceed 8.25%. More information will be available at the time the loan is made.

Work-Study Programs—The Federal Work-Study Program provides employment opportunities for selected undergraduate and graduate students with demonstrated financial need. The New Mexico Work-Study Program also provides employment opportunities for students; however, only New Mexico residents are eligible to participate in the program.


AWARDS

All financial aid awards are based on information provided by the student and parents, availability of funds, and eligibility requirements. Any award may be revised based on changes in enrollment, cost of attendance, family contribution, or failure to meet satisfactory academic progress. Withdrawals or reductions in enrollment may affect an award or any future awards. Financial Aid will not pay for audited courses or some repeats.

Scholarships and Other Aid

State, institutional, and federal scholarships may also be available. Amounts, deadlines and eligibility requirements vary. For more information, contact the Office of Student Financial Aid and Scholarship Services or visit the university’s scholarship website at http://fa.nmsu.edu/sch.html.

Many students finance part of their education with scholarships, which may be awarded for academic achievement, special skills, talent, and/or because of the recipient’s financial need.

Major Scholarships for Entering Freshmen

For consideration, students must be admitted (tentative or final) to NMSU (Las Cruces campus) by March 1, and meet eligibility criteria at that time. Students must graduate from a New Mexico High School and attend at least one year at a New Mexico High School or be a New Mexico GED recipient (except for the Out of State Scholarship). Students must enroll in the first regular semester directly following high school graduation. Recipients must enroll in at least 12 valid credit hours (full-time) of bachelor’s degree-seeking courses of which one course must be at the Las Cruces campus of NMSU. Some scholarships may be funded in part by the New Mexico Lottery Success Scholarship beginning the second semester. Scholarships are competitive and number of awards granted is limited. A student may receive only one of the major scholarships listed for entering freshmen.

Home School Students—for financial aid eligibility contact the Office of Student Financial Aid and Scholarship Services.

President’s Associates Honors Scholarship: Tuition and Fees plus $1,750/Semester—NMSU Honors College scholarship application and essay required. Application available online at http://honors.nmsu.edu/. Deadline mid-January. Students applying for this scholarship must apply, meet scholarship criteria, and be admitted to NMSU by March 1. Renewable: 3.25 GPA and completion of 12 graded credits at the end of the first semester. Thereafter, renewable based on a 3.5 cumulative GPA and successful completion of 12 graded credits per semester.

NMSU Leadership Scholarship: Tuition and Fees plus $1,000/Semester—High School Requirements: 3.75 GPA and 28 ACT or 3.5 and 30 ACT. NMSU Honors College Scholarship application and essay required. Application available online at http://honors.nmsu.edu/. Deadline mid-January. Renewable: 3.25 GPA and successful completion of 12 graded credits at the end of the first semester. Thereafter, renewable based on a 3.5 cumulative GPA and successful completion of 12 graded credits per semester.

Crimson Honors Scholarship: Tuition and Fees plus $500/semester—High School Requirements: 24 ACT (1110 SAT) and 3.75 GPA or 26 ACT (1190 SAT). NMSU Honors College scholarship application. Application available online at http://honors.nmsu.edu/. Deadline March 1st. To be considered for this scholarship students must apply, meet scholarship criteria, and be admitted to NMSU by March 1st. Renewable: 3.25 GPA and successful completion of 12 graded credits at the end of the first semester. Thereafter, renewable based on a 3.5 cumulative GPA and successful completion of 12 graded credits per semester.

New Mexico Scholars Scholarship: Tuition and Fees and Book Stipend—Qualifying family income, if one student in college, $30,000 AGI or less. If two students in college, $40,000 AGI or less. High School Requirements: 25 ACT (1150 SAT) or top 5% of high school class. Renewable: 3.0 GPA and successful completion of 12 graded credits each semester.

NMSU Crimson Academic Scholarship: Tuition and Fees plus $250/ Semester—High School Requirements: 24 ACT (1110 SAT) and 3.75 GPA or 26 ACT (1190 SAT). Renewable: 3.25 GPA and completion of 12 graded credits at the end of the first semester. Thereafter, renewable based on a 3.5 cumulative GPA and successful completion of 12 graded credits per semester.

Regents Scholarship: Tuition and Fees—High School Requirements: 23 ACT (1070 SAT) and 3.5 GPA or 3.75 GPA. Renewable: 3.0 cumulative GPA and 12 graded credits each semester.

Opportunity Scholarship: One Semester (non-renewable) $1,000 Award—High School Requirements: 21 ACT (990 SAT) or 3.0 GPA.

Legislative Lottery—Awarded in the second semester of the freshman year for qualified students completing 12 credits with a semester GPA of 2.5. Renewable: 2.5 cumulative GPA and 12 graded credits each semester.

Out-of-State Scholarship: Reduction to In-State Tuition and Fees Plus $100/ Semester—Non-NM Residents. High School Requirements: 23 ACT (1070 SAT) and 3.5 GPA or 26 ACT (1190 SAT) and 3.0 GPA. Renewable: 3.25 GPA and completion of 12 graded credits each semester. Scholarship is competitive and number of awards granted is limited.

FINANCIAL AID SATISFACTORY ACADEMIC PROGRESS

Federal regulations require that financial aid recipients meet certain academic standards to be eligible for federal financial aid. To ensure that financial aid recipients are making satisfactory academic progress, academic transcripts are reviewed at the end of each term to determine eligibility for the next term. All terms of attendance are reviewed, including periods in which the student did not receive financial aid. All transfer work is taken into account when satisfactory progress is reviewed.

• Qualitative Progress: Undergraduate students must maintain a cumulative GPA of at least 2.0 (a C average). Graduate students must maintain a cumulative GPA of at least 3.0 (a B average). Grade point values are: A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0. Grades of I, CR, RR, PR, NC, W, AU are not calculated in the GPA.

• Completion Rate: Students must complete a minimum of 67 percent of all coursework (registered credit hours) attempted at NMSU. Any course with a grade of withdraw (W), incomplete (I), repeats (RR), failure (F), audit (AU), or no credit (NC) is not considered completed coursework. Repeated courses are included in the calculation.

• Maximum Time Frame: Students must complete their program within 150 percent of the credit hours required by the program. Students who have reached the maximum allowable time will be suspended from receiving financial aid. Developmental/remedial hours are excluded from this calculation. Total attempted hours including repeated courses and transfer coursework are included in the student’s maximum time frame calculation.

FINANCIAL AID SUSPENSION

Students are suspended from receiving financial aid if they do not meet satisfactory academic progress standards. Students on financial aid suspension will not receive any form of federal or state financial aid (grants, loans, work study). Financial aid eligibility is reinstated when all standards of satisfactory progress are met.

THE APPEALS PROCESS

Students suspended from financial aid may appeal the suspension if there are mitigating circumstances affecting their progress. Students who would like to appeal the suspension must submit an appeal form, available at http://fa.nmsu.
The NMSU Library consists of two libraries: Zuhl Library and Branson Library. The library’s research collection has over 1.7 million volumes, and the library budget exceeds $6.3 million.

The library’s collections are accessible through its on-line catalog and through electronic databases via the library’s web site. The Reference and Research Services staff provides assistance in using the library’s resources including a multifaceted instruction program designed to promote the information literacy skills that facilitate learning for all library users.

The Archives and Special Collections Department includes Special Collections, University Archives, and the Rio Grande Historical Collections (RGHC). These unique research collections preserve and provide access to New Mexico’s history and border culture.

On exhibit in Zuhl Library are geologic artifacts owned by Herbert and Joan Zuhl. The Zuhl Collection includes pieces consisting of petrified wood, invertebrate and vertebrate fossils, and minerals and rocks.

For more information, visit the library’s web site at http://lib.nmsu.edu/.

ORAU STUDENT OPPORTUNITY
Since 1991, students and faculty of New Mexico State University benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 98 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at http://www.orau.gov/orise/edu.htm, or by calling either of the contacts below.

ORAU’s Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU’s members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs as well as services to chief research officers.

OUTCOMES ASSESSMENT
As part of its continuing effort to maintain quality academic programs and to provide strong support services, NMSU routinely conducts outcomes assessment activities. Students may be required to participate in one or more of these activities (for example: capstone courses or exams, exit interviews, and standardized tests). The data resulting from these assessments will be published only in aggregate form.

SERVICES FOR STUDENTS WITH DISABILITIES
Services for Students with Disabilities (SSD) assists individuals with documented disabilities to obtain appropriate academic accommodations. Students with sensory, mobility, learning, or other recognized impairments are encouraged to apply for services through this office. Among services available are note taking, test accommodations, interpreters, and others. Students are encouraged to provide documentation and request services well in advance of the start of school to allow adequate time to make the needed arrangements. The university is committed to ensuring that the campus is accessible to all individuals. For more information, please come by our offices in Corbett Center 244 or call (575) 646-6840 (voice), (575) 646-1918 (TDD/text telephone).

SERCVMEMBERS OPPORTUNITY COLLEGE (SOC)
The NMSU system has been designated a Servicemembers Opportunity College Consortium university. As a member of SOC, NMSU has committed itself to fully support and comply with SOC principles and criteria, ensuring that servicemembers and their families share in the postsecondary educational opportunities available to other citizens. Those eligible are provided with appropriately accredited educational programs, courses, and services. Flexibility of programs and procedures particularly in admissions, counseling, credit transfer, course

RESOURCES FOR STUDENTS

ACADEMIC

DISTANCE EDUCATION
Distance Education (DE) at NMSU is defined as the formal education process of delivering instruction so that students physically remote from the campus of program origin and/or instructor may participate. Students who live a significant distance away from the main campus or have scheduling conflicts due to family or work obligations often find distance education as the best solution to educational advancement. The NMSU Office of Distance Education is here to serve these students.

Distance Education Delivery
Distance education undergraduate degree programs at NMSU are delivered using both technology and face-to-face instruction at off-site locations such as NMSU branch campuses. Degrees are listed below according to their primary delivery method. For complete information, please visit the Office of Distance Education web site at http://distance.nmsu.edu/.

Bachelor’s Degree Completion Programs
All undergraduate degree programs offered through NMSU Distance Education are Bachelor degree completion programs. These programs require that students have all lower-division (100 and 200 level) credits completed before admittance into the program. DE Bachelor degree completion programs normally require two years of 300 and 400 level upper-division coursework to finish.

Technology-Based Programs
Distance education programs listed under this category are delivered primarily using distance learning technologies. In some cases, programs may require brief residencies on the main campus for orientations, assessment, etc. Technologies used to deliver distance education at NMSU include:

- WebCT (Web Course Tools): Enables an instructor to integrate the Internet into delivery of a course.
- Centra: A synchronous web delivery solution for conducting virtual or “live” classroom events through the Web.
- NMSU Media Services: Provides course delivery through cable television, satellite, teleconferencing, and more.

Courses may use a “blended approach” to instruction integrating two or more types of technologies above to promote engaging and effective learning.

Bachelor’s Degree Completion Programs
- Bachelor of Arts (BA) in Sociology
- Bachelor of Business Administration (BBA)
- Bachelor of Criminal Justice
- Bachelor of Human and Community Services (BHCS)
- Bachelor of Information and Communication Technology
- Bachelor of Science in Hotel, Restaurant, and Tourism Management

Off-Site/Extension Programs
Distance education programs listed under this category are delivered primarily face-to-face at off-site/extension locations. Often, these courses will enhance instruction and learning with technology. Programs are located at NMSU two-year and Albuquerque Center campuses, as well as other locations throughout the state. The degree completion programs below are available at one or more off-site/extension locations.

Bachelor’s Degree Completion Programs
- Bachelor of Science (BS) in Elementary Education
- Bachelor of Science in Nursing (BSN)

NEW MEXICO STATE UNIVERSITY LIBRARY
The NMSU Library consists of two libraries: Zuhl Library and Branson Library. The library’s research collection has over 1.7 million volumes, and the library budget exceeds $6.3 million.

edu, and all required documentation to the Office of Student Financial Aid. A committee will review the appeal and may grant reinstatement of financial aid based on mitigating circumstances that directly contributed to deficient academic performance. Appeals are usually evaluated on a term-by-term basis.
articulation, recognition of other applicable learning experiences, including that gained in the military, scheduling, course format and residency requirements are provided to enhance access of servicemembers and their families to undergraduate education programs. All SDC rules and regulations apply. For further assistance contact the SDC coordinator through the College of Extended Learning.

SPEECH AND HEARING CENTER

Combining instruction, practical experience, and service, the center provides training for students in communication disorders and provides service to the community. Students have opportunities to participate in diagnostic evaluations and to provide therapy in the areas of speech, language, and hearing for clients across the lifespan.

Referrals are accepted from all sources (self, medical, school, nonprofessional). The Speech and Hearing Center is a fee-for-service clinic where university students and their immediate family receive a reduced rate. All services are supervised by professional personnel licensed in New Mexico and holding the Certificate of Clinical Competence in Speech-Language Pathology or Audiology of the American Speech-Language-Hearing Association. Services are provided in English and/or Spanish. For further information, contact Speech and Hearing Center, MSC 3SPE, New Mexico State University, P. O. Box 30001, Las Cruces, New Mexico 88003-8001, (575) 646-3906; (TTY-(575) 646-6191).

TESTING SERVICES

Testing Services (575) 646-1921 provides test information and registration materials for the following tests: American College Testing Assessment (ACT); College Level Examination Program (CLEP); General Education Development (GED); Graduate Management Admission Test (GMAT); Graduate Record Exam (GRE); Miller Analogies Test (MAT); PRAXIS Series; Pre-Professional Skills Test (PPST); and New Mexico Teacher Assessments, and others.

WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION

NMSU collaborates with the Western Interstate Commission for Higher Education (WICHE) in recommending graduates of the university for programs in dentistry, graduate library studies, occupational therapy, optometry, osteopathy, podiatry, public health, and veterinary medicine in universities of other western states. The State of New Mexico subsidizes the education of New Mexico residents when approved for training in these fields in other states. This subsidy is a loan-for-service program which permits New Mexico residents to attend state-supported institutions at in-state tuition rates and private institutions at approximately one-third the standard tuition cost if they practice in New Mexico for an equal number of years after graduation. This program is contingent upon funding by the state legislature. For further information write the Certifying Officer for New Mexico, WICHE’s Student Exchange Program, New Mexico Commission on Higher Education, 1068 Carrillos Road, Santa Fe, NM 87501-4295.

IN Volvement

CAMPUS ACTIVITIES

The Department of Campus Activities offers outside the classroom involvement, an essential complement to the student’s academics. Leadership and personal growth opportunities are offered through student organizations, Greek Life, and National Student Exchange. Students are expected to take advantage of the Student Involvement Log (co-curricular transcript) and/or the Leader Certificate Program to optimize their undergraduate experience.

This office also coordinates activities and events through the Activity Registration process, administers the University Sales and Solicitation Policy, serves as liaison to the InterFaith Council, and is responsible for the Student Handbook.

NATIONAL STUDENT EXCHANGE PROGRAM

Under the National Student Exchange Program (NSE), students may pay NMSU tuition and attend any of 180 colleges or universities across the nation. NSE allows students to broaden their academic, social, and cultural awareness through study in different geographical settings. To qualify for the program, an applicant must be a full-time student with a 2.5 grade-point average and must be a sophomore, junior, or senior at the time of exchange. Applications for the program are accepted from October through February for the following academic year. Late applications may be accepted if space permits.

Grades and credit hours earned at the host institution become part of the official NMSU transcript upon approval of the academic advisor and records officer. Grades are recorded according to the NMSU grading system.

ON-CAMPUS SERVICES

CAMPUS DINING

It is mandatory for freshmen who live in campus housing to participate in the meal plan. The meal plans range from unlimited meals to 150 meals a semester. Continuing and commuter students will find different meal plans that suit their lifestyle. Most meal plans come with flex points that can be used at other campus dining locations. One flex point is worth one dollar. A dining contract runs for the whole academic year and charges are applied to a student’s university account every semester. For more information visit the website http://www.nmsu.edu/~dining. You can obtain a Dining Application from the ID Card Services office or the Housing and Residential Life Department.

Other Food Service Options

In addition to the meal membership program, food service is available at various locations throughout the campus by using cash, the NMSU Aggie Cash, NMSU Enhanced Aggie Access Card or, in some areas, the flex points included with the meal plan package. Food service location hours vary. More information can be obtained by contacting the ID Card Office (575) 646-4835 or http://www.nmsu.edu/~idavs.

CORBETT CENTER STUDENT UNION

Corbett Center Student Union (CCSU) serves as the center for campus life providing programs and services for students and other members of the University community. A place to study, relax, meet with student groups, work or play, CCSU offers students, faculty, and staff a variety of services and activities. The union is the home to several administrative offices, student programming/activities, ASNMSU, the student radio station and student newspaper.

Services offered by CCSU include meeting rooms, auditorium, multiple dining facilities (both retail and residential), bookstore, a game room and computer lab, study areas, post office and a convenience store. For more information call (575) 646-4530 or visit the web site at http://ccsu.nmsu.edu/.

The Barnes and Noble University Bookstore is located in the Corbett Center Student Union Building. The bookstore is your one source for all required course textbooks, both new and used, unique Health Science and Nursing accessories, creative school and office supplies, academic pricing on computer hardware and software and official Aggies merchandise.

HOUSING AND RESIDENTIAL LIFE

Living on campus can help ease the transition to college and help students meet new and diverse individuals. As campus residents, students are part of the campus community and have more opportunities to join clubs, attend campus events, be closer to classes, the Activity Center, the library, and many other campus resources. While campus living is not required, the university strongly encourages students to take advantage of the many opportunities available through campus residency. For more information about housing options, and to get a housing application, or apply online, visit our web site at www.nmsu.edu/~housing.

Residence Halls

NMSU offers four different residence halls for first-year students to choose from. First-year students will be placed in Garcia Hall, Piñon Hall, Monagle Hall or Rhodes-Garrett-Hamel. The semester housing cost includes all utilities, local phone service, cable TV, and high-speed data connectivity.

Campus Apartments

Campus apartments offer students more than just affordable housing; campus apartments offer a unique college atmosphere where neighbors share similar goals (such as graduating) and together form an academic community unlike any found off campus. Available for sophomores to graduate students, on-campus apartments have the benefits of on-site staff, prompt maintenance, and amenities such as a computer lab and laundromat. Apartments are fully furnished and the semester’s charge includes all utilities, local phone service, cable TV, and high-speed data connectivity.

Student Family Housing

Student family housing is available for students who are married and/or have dependents living with them. Two-story townhouse apartments and single-story houses include two bedrooms, a bath, kitchen and living room. Four-bedroom apartments include four bedrooms, two bathrooms, kitchen and living room. All units are unfurnished except for the stove and refrigerator. Washing machine hook-ups are provided in the single-story houses and townhouses only. The monthly rent includes all utilities, local phone service, cable TV, and
high-speed data connectivity. Some pets are allowed in parts of Student Family Housing.

Availability of Units for Students with Disabilities
There are a limited number of specially equipped residence hall rooms, Vista del Monte apartments, and family housing units available to students with disabilities (including students who use wheelchairs) who wish to reside in campus housing. These are assigned on a first-come, first-served basis. Specific needs or requirements (i.e., roll-in showers, special door openers, etc.) should be discussed with the Department of Housing and Residential Life on an individual basis prior to submitting an application.

Application Procedures and Acceptance Policy
The university reserves the right to refuse to give a housing assignment to any student. Examples of reasons for refusal include, but are not limited to, individuals who have criminal histories, individuals who have behavioral problems which may, in the opinion of the university, negatively impact the group-living environment, individuals who have been previously evicted from campus housing, or individuals who have poor rental histories.

The university will assign accommodations subject to the space available. The university will not guarantee assignments to a particular building, nor will it guarantee types of accommodations, specific rooms or apartments, roommates, or single rooms.

The university reserves the right to change or cancel assignments in the interest of order, health, safety, or discipline with appropriate written notice.

Completed applications for housing and dining services* should be submitted as early as possible, preferably one regular semester in advance. Single student housing and meal plan applications require a prepayment at the time of application. Submission of a housing and dining application indicates acceptance of the terms and conditions of the applicable agreement. The Director of Housing and Residential Life is responsible for administration of the housing agreement. The ID Card manager is responsible for the administration of the Dining Contract.

All housing areas require at least part-time enrollment during the regular academic year. Continuing housing residents are not required to enroll during summer sessions.

Completed applications for Student Family Housing** should be submitted at least 8 to 6 months in advance. Family Housing occupants are assigned based on the date of application. Family Housing occupancy is month-to-month, with thirty (30) days’ notice required to vacate.

*Application procedures for current on-campus residents may differ from those stated above.**Certain qualifications apply for single student apartment and family housing occupancy. Consult the main Housing Office for details.

ID CARD SERVICES
The NMSU Aggie Access card is the primary source of student identification for the campus. The I.D. card serves as a membership card for meals, Aggie Ca$h, as a key in some residential buildings, allows check cashing privileges, and carries proof of eligibility for access to athletic events, and allows for other student services. This information is added to your card after registration for classes and financial arrangements have been completed. For more information: http://www.nmsu.edu/idsa.

Aggie Ca$h is a pre-paid account that allows you to use your Aggie Access card to make purchases at locations all over campus. The NMSU Enhanced Aggie Access Card allows your student card to also be your Wells Fargo debit card. The ID Card Services Office in Corbett Hall has the information and applications you will need.

PARKING OFFICE
The Parking Department is responsible for administering the parking program for NMSU. This includes the development of parking lots, issuing of parking permits and enforcement of parking regulations.

Commuter Student Permits and Resident Student Permits are available and may be purchased Monday through Friday from 8:00 am – 4:30 p.m. at the Parking Department located at 725 College Drive, on-line at http://www.nmsuparking.com/permit2.html, or by completing a Mail Order Permit Request at http://www.nmsuparking.com/permits.html.

Individuals who choose to park on NMSU campus parking lots or on NMSU campus streets must obtain and display an NMSU parking permit, pay at the meter, or park in the free parking lots. To lessen parking difficulties for students, faculty, and staff, the Aggie transit is available to those individuals who opt to park in the free parking lot east of Pan American Center. Permit regulations are enforced between the hours of 7:30 am and 4:30 p.m. Disabled parking spaces, emergency/fire zones, service zones and yellow curbs are enforced 24 hours a day. Parking Regulations and campus maps are available on-line at http://www.nmsuparking.com

STUDENT HEALTH CENTER
The university maintains a well-equipped health clinic on campus, including laboratory, pharmacy and x-ray services. Hospitalization and emergency care is available in the community.

The health fee is included in tuition for all full-time students. Part-time undergraduate students taking 6 credits or more per semester may pay the health fee during registration periods only. Graduate students should refer to the Graduate Catalog.

Part-time international students must pay the health fee for Student Health Center services.

Tuberculosis (TB) skin testing and health insurance is required for all international students admitted to NMSU. Payment of any costs related to compliance with this requirement remains the obligation of the student. Any newly admitted international student who has not received a TB skin test (including the interpretation) and purchased insurance will have his or her registration blocked for any subsequent enrollment period(s) until this requirement is completed. Additional information on policies surrounding the tuberculosis skin testing is available from the Student Health Center.

For more information on supplemental health insurance contact the SHC Insurance office at (575) 646-5706.

VETERANS’ PROGRAMS
NMSU degree programs are approved by the Director of Veteran’s Education and Training for enrollment of persons eligible to receive education benefits from the Department of Veteran’s Affairs (DVA).

For further information concerning approved programs and application process, eligible persons should contact the Veterans’ Programs Office at Jacobs Hall, Room 214 or at (575) 646-4524 or through email at va@nmsu.edu.

Responsibility of Veteran Students
Students must be pursuing a degree in a specific program to be eligible to receive benefits. Admission procedures for veterans and other eligible persons are the same as those for other students. Degree plans from advisors must be submitted prior to any verification. For continued certification students must submit the Verification of Enrollment Form and Detailed Class Schedule to the NMSU Veterans’ Program Office.

Veterans must notify the Veteran’s Programs Office when any one of the following occurs:

• Dropping or adding course(s)
• Withdrawing from course(s)
• Discontinuing regular class attendance
• Change in Programs (academic majors)
• VA educational benefits are payable for regular attendance in courses that are part of the veteran’s program (major) curriculum. VA educational benefits are not payable for:

• Classes not attended regularly
• Repeat of a course for which a passing grade was received
• Classes for which credit is received through successful completion of a proficiency test or grade by examination
• Classes taken on an audit basis
• Classes that are dropped
• Classes taken that are not part of the veteran’s program (major) curriculum

SUPPORT FOR SUCCESS
CAREER SERVICES
The mission of Career Services is to offer programs, services, and resources that will contribute to students’ life-long career-planning efforts. Staff members work closely with deans, department heads, faculty, and employers to assist students and alumni in developing suitable career opportunities based on their education, experiences, and interests. Additionally, Career Services arranges interviews between prospective employers and graduating students and alumni. The staff advises students on the career-planning process and successful job-search strategies. Current information on employment trends and a
The Counseling Center provides students and the campus with a variety of services including individual and group counseling, career exploration, outreach programs, and consultation. We assist students with issues such as relationship conflicts, depression, anxiety, stress management, and self-esteem concerns. All services are strictly confidential and are free. The Counseling Center is located in Garcia Annex Room 100, and is open Monday through Friday, 8:00 a.m. - 5:00 p.m. and other times as needed. The Counseling Center is staffed by professional counselors and psychologists and is accredited by the International Association of Counseling Services, Inc.

The Career Exploration Center, located on the northeast corner of Garcia Annex adjacent to the Counseling Center, provides students with assistance in career choice and selecting an appropriate area of study. An excellent library is available for reference use and check out. For more information check our website at www.nmsu.edu/counseling.

WAVE: Wellness, Alcohol, and Violence Education is comprised of the Choices program that provides campus organizations, classes and other groups with information concerning the decisions that surround drinking alcohol and the VIP (Violence Intervention Program) that delivers presentations on sexual assault and violence prevention.

NEW STUDENT PROGRAMS

New Student Registration programs are offered throughout the year. During NSR events, students will attend information sessions, meet with an academic advisor and register for classes. Students will also learn more about college life and campus resources. For information, please contact the Office of Enrollment Management at (575) 646-1055 or nsoinfo@nmsu.edu.

STUDENT SUPPORT SERVICES TRIO PROGRAM

Student Support Services TRIO program offers academic support to ensure that program participants succeed at NMSU. Services that are free to participants include the following:

• Mentoring – participants meet with a mentor each week for help in adjusting to college, learning and using campus resources, developing effective study skills, accessing financial aid, using academic peer advising, staying motivated, and dealing with personal issues associated with college as a first generation college student.

• Tutoring – individual tutoring is available by appointment in science, math, engineering, agriculture, social sciences, humanities, business, and foreign languages. Tutors are approved by department and many are certified through the College Reading and Learning Association.

• Tutoring/Computer Lab – complete assignments, check email, drop in for tutoring.

• Cultural Activities – participants receive tickets to activities attended in groups. These activities include plays, dance productions, concerts, and symphonies.

• Loans - laptops, desktop computers, books, tape recorders, and programmable calculators are available to participants.

To qualify for the program, students must be a first generation college student (neither parent received a four-year baccalaureate degree), meet low income guidelines set by the US Department of Education, have an academic need or have a learning or physical disability and be registered with the SSD Office at NMSU. The Student Support Services TRIO Program is highly competitive with only 350 slots available for eligible students. Students should apply early in Garcia Annex, Room 143. Visit our web site at www.nmsu.edu/~sss or call (575) 646-1336.

STUDENT SUCCESS CENTERS-HARDMAN/ZUHL

New Mexico State University offers a variety of learning assistance, advising, and tutorial services via two Student Success Centers; Student Success Center-Hardman and Student Success Center-Zuhl. Both Student Success Centers are centrally located on the main campus, Hardman Hall Room 210 and Zuhl Library Second Floor, and provide no-fee services to assist NMSU students reach their academic potential. Services provided at the Student Success Centers are specific to location and are described below:

The Student Success Center-Hardman (SSC-Hardman) provides study skills assistance in such areas as time management, memory, concentration, note taking, reading, test preparation, test taking, math/science study skills, speed reading, critical thinking, and graduate school and professional skills test preparation. The services are available to students in the following formats:

1) Individualized assistance is provided to any student who walks in at the SSC-Hardman. This is a no-fee service.

2) Degree credit is offered under UNIV 110, Personal Learning Skills; UNIV 112, Academic and Personal Effectiveness; UNIV 113, Speed Reading; UNIV 150, The Freshman Year Experience; UNIV 300, Preparing for the GRE, UNIV 350, Peer Education; and UNIV 395, Independent Study.

3) Learning strategies and study-skills workshops provide quick assistance in one-hour presentations offered throughout the semester.

4) Professional and graduate school workshops provide development in such areas as speed reading, getting into graduate school, preparing for the GRE, GMAT, LSAT, MCAT, or NMTA.
5) SSC-Hardman staff provide outreach presentations on learning and study-skills topics to classes, programs, and organizations on campus. The Center also houses a 16 station student computer lab.

The Student Success Center-Zuhl (SSC-Zuhl) provides cross-campus advising as well as coordinating, in conjunction with Housing and Residential Life, the Honors College, and ASNMSU, the Campus Tutoring Service. The Campus Tutoring Service provides free tutoring to NMSU Students and is available in the SSC-Zuhl and at various campus locations. The SSC-Zuhl also houses the PRIMOS Program.

TECHNOLOGY

INFORMATION AND COMMUNICATION TECHNOLOGIES

Information and Communication Technologies (ICT) supports access and success at NMSU. Through their projects and daily activities, ICT provides resources and services to support the educational, research, and public service missions of the university. ICT provides computer labs throughout the main campus that provides PC’s and Mac’s loaded with computer software to meet the academic needs of NMSU students. Access to other campus resources including wireless zones, account management, equipment checkout, and learning technologies are readily available. Student admissions, registration, financial aid, and grades are accessible on the web for easy student use through myNMSU.

For further information, contact ICT:

MSC 3AT, NMSU
P. O. Box 30001, Las Cruces, NM 88003-8001
(575) 646-1840 or email help@nmsu.edu.

ICT’s web homepage is located at http://ict.nmsu.edu.

ASSOCIATE DEGREE PROGRAMS

NMSU awards both designated and undesignated associate degrees following completion of 66 semester credits (excluding “N” suffix courses). The last 15 to 30 credits, depending on the requirements of the college in which the degree is pursued, must be completed at NMSU or one of its Community Colleges. (Service personnel enrolled under the two-year Servicemember’s Opportunity College Program may be exempt from this requirement.)

The designation Meritorious Graduate is awarded to the top 15 percent of the students receiving associate degrees within each college in any one academic year; the students must have completed 45 or more credits with computable grades at NMSU.

Las Cruces campus

Detailed information on admission requirements, curricula, and associate degree or certificate requirements will be found in the section of this catalog devoted to the administering department/college.

Associate of Arts
Administered by the Community Colleges

Associate of Fine Arts
Administered by the Community Colleges

Associate of Science
Administered by the Community Colleges

Associate of Science in Engineering Technology
Administered by the College of Engineering

Designated Associate Degrees

The following designated associate degrees are granted to students completing the specified requirements of the degree.

Associate in Art and Graphic Design, administered by the Community Colleges

Associate in Criminal Justice, administered by the Community Colleges

Associate in Education, administered by the Community Colleges

Associate in Pre-business, administered by the College of Business

Associate of Arts in Heritage Interpretation, administered by the Community Colleges

Community Colleges

Many of the associate degrees offered on Las Cruces campus, as well as other programs, are available at NMSU’s four community college campuses. For more information on community college campus offerings, refer to the “Community Colleges” chapter in this catalog and to their respective catalogs or admissions offices.

GRADUATE PROGRAMS

For information on graduate programs, contact the Graduate School, MSC 3G, NMSU, P. O. Box 30001, Las Cruces, NM 88003-8001 or send email to gradinfo@nmsu.edu. Also, see http://gradschool.nmsu.edu/gradcat.html.

DEGREES, SPECIALIZATIONS/CONCENTRATIONS

Graduate degrees, specializations/concentrations, and the programs in which they are awarded are:

Master of Accountancy

Master of Agriculture

Specialization/Concentration in: Agribusiness

Master of Applied Geography

Master of Arts

Agricultural and Extension Education

Anthropology

Art

Communication Disorders

Communication Studies

Counseling and Guidance

Economics

Education

Specialization/Concentration in:

Bilingual/Multicultural Special Education

Bilingual Speech-Language Pathology

Early Childhood Special Education

Educational Diagnostics

Special Education

Special Education Administration

Special Education/Deaf-Hard of Hearing

Speech-Language Pathology

Educational Administration

English

Government

History

Specialization/Concentration in: Public History

Psychology

Sociology

Spanish

Master of Arts in Teaching

Specialization/Concentration in: Science

Math

Master of Business Administration

Specialization/Concentration in: Agribusiness

Finance

Information Systems

International Business

Master of Criminal Justice

Master of Fine Arts

Master of Fine Arts in Creative Writing

Master of Music

Master of Public Administration

Master of Public Health

Master of Science

Agricultural Biology

Agricultural Economics
RECOGNITION of ACADEMIC ACHIEVEMENT

NMSU has a number of university-wide programs that recognize academic achievement. These include the Honors College, the Crimson Scholars Program, the Centennial Scholars Program, dean’s report of academic achievement, and graduation with honors. In addition, many colleges and departments have their own programs and awards that recognize their students’ academic achievement.

THE HONORS COLLEGE

The Honors College provides motivated undergraduate students with opportunities to broaden and enrich their academic programs. In small classes taught by master teachers, honors students engage in lively discussion and collaborative investigation of interdisciplinary topics. By taking honors courses, students may also work toward completing general education requirements and disciplinary requirements in the major. There are two program options available to students: University Honors and the Honors Certificate. Each option has separate eligibility requirements, benefits, and forms of recognition for the student. For details concerning eligibility and requirements, see the Honors College section of the catalog.

Crimson Scholars Program

Crimson Scholars is a recognition program for academically superior students. Crimson Scholars receive a number of benefits, including:

• Automatic eligibility for all Honors courses
• Early registration
• Special advising
• Notation on college transcript
• Recognition in the commencement program
• A lapel pin

For eligibility criteria, see the Honors College section of the catalog.

Dean’s Report of Academic Achievement

Following the close of the semester, each college dean publishes a list of students who have achieved honor standing in grades for the previous semester. To be eligible, a student must have been enrolled in 12 or more semester credits with a computable grade in each. The top 15 percent of eligible students by college for that semester will be named to the Dean’s Honor List.

Graduation with Honors

To be eligible for four-year degrees with honors, a student must have earned at least 60 semester credits in computable grades while in residence at
New Mexico State. Courses taken in the Honors College and graded S will be counted as a part of the minimum of 60 credits. The number of students at graduation, by college, receiving degrees with honors in any one year shall not exceed 15 percent. To receive high honors, a student must have earned a 4.0 GPA or be in the top 1.5 percent of the graduating class by college. One person from each college will receive highest honors. In case of a tie, the student with the greatest numbers of credits earned at NMSU with computable grades will be awarded highest honors for each college. Of the students receiving highest honors from the fall and spring commencements, the student with the highest grade-point average and the greatest number of credits earned at NMSU with computable grades will be awarded the Class of 1919 Scholarship Plaque.

SPECIAL PROGRAMS

PREPROFESSIONAL PROGRAMS

NMSU offers a number of programs designed for transfer to professional schools through its undergraduate colleges. The programs follow.

Prehealth is administered by the College Of Agricultural, Consumer And Environmental Sciences

Prevote is administered by the College Of Arts and Sciences (with the exception of pre-nursing which is administered by the College of Health and Social Sciences.)

Prelaw is administered by the College of Business and by the College of Arts and Sciences. Law schools will accept undergraduates who have earned bachelor’s degrees in any major. Many prelaw students take some law courses in their undergraduate program. The College of Arts and Sciences supervises a Supplementary Major in Law and Society, which includes courses from a number of departments and several colleges. It is described under “Government” in the Arts and Sciences chapter. The College of Business offers a number of Business Law courses which can be found under the prefix BLAW in the course description chapter later in this catalog.

Further information will be found in the sections of this catalog devoted to the colleges. (See also the paragraph on Western Interstate Commission for Higher Education under “Academic Services.”)

RESERVE OFFICERS’ TRAINING CORPS (ROTC)

The Reserve Officers’ Training Corps is a commissioning program designed to attract, motivate, and train qualified students for military service as officers. The ROTC program is represented on the NMSU campus by the Department of Military Science (U.S. Army) and the Department of Aerospace Studies (U.S. Air Force).

Curricula in the Departments of Military Science and Aerospace Studies are divided into basic and advanced courses of two years each. Enrollment in the basic course is voluntary and involves no obligation. Participation in the advanced course is on a contractual basis and leads to military service as a commissioned officer. Elective academic credit is granted by the university for ROTC classes.

Students with prior military service or Junior ROTC experience may receive credit, although not academic credit, for all or portions of the basic course.

All qualified cadets enrolled in ROTC receive a stipend that varies dependent upon the year the cadet is in the program. Additionally, scholarships, which pay full college tuition as well as various laboratory, textbook, and incidental fees, are available on a competitive basis.

Consult the departmental section of this catalog for more detailed information on the ROTC programs offered by the Departments of Military Science and Aerospace Studies. Additional information may be obtained by contacting the departments directly at (575) 646-4030 (Army) and (575) 646-2136 (Air Force).

REQUIRED COURSES

THE NEW MEXICO GENERAL EDUCATION COMMON CORE

General Education at NMSU provides all students with a broad foundation and common framework upon which to develop knowledge and skills, social consciousness and respect for self and others; thus enabling them to function responsibly and effectively now and in the future. General education courses at NMSU can be identified by the G suffix.

The New Mexico General Education Common Core are designated general education courses guaranteed to transfer to any New Mexico public college or university. A complete list of approved courses can be found on the New Mexico Higher Education Department web site at www.hed.state.nm.us. The current approved NMSU courses are listed below under each of the five general education areas:

AREA I: COMMUNICATIONS (Select 9-10 credits)

English Composition – Level 1

ENGL 111G, Rhetoric and Composition ................................................................. 4
ENGL 111GH, Rhetoric and Composition, Honors .............................................. 4
SPCD 111G, Advanced ESL Composition .......................................................... 4

English Composition – Level 2

ENGL 203G, Business and Professional Communication .................................. 3
ENGL 211G, Writing in the Humanities and Social Sciences ............................. 3
ENGL 218G, Technical and Scientific Communication ....................................... 3
ENGL 311G, Advanced Composition .................................................................. 3
ENGL 318G, Advanced Technical and Professional Communication ............... 3

Oral Communication

AXED 201G, Effective Leadership and Communication in Agricultural Organizations ................................................................. 3
COMM 253G, Public Speaking ............................................................................. 3
COMM 265G, Principles of Human Communication ....................................... 3
HON 265G, Principles of Human Communication- Honors ............................. 3

AREA II: MATHEMATICS/ALGEBRA (Select 3 credits)

E ST/STAT 251G, Statistics for Business and Behavioral Sciences ................ 3
HON 210G, The Accidental Mathematician ....................................................... 3
MATH 112G, Fundamentals of Elementary Mathematics II .............................. 3
MATH 121G, College Algebra ........................................................................... 3
MATH 142G, Calculus for the Biological and Management Sciences ............... 3
MATH 190G, Trigonometry and Precalculus .................................................... 3
MATH 191G/MATH 191GL, Calculus and Analytic Geometry I ................. 3
MATH 192/MATH 192GL, Calculus and Analytic Geometry II ..................... 3
MATH 210G, Math Appreciation ..................................................................... 3
MATH 291G, Calculus and Analytic Geometry III ............................................. 3
MATH/HON 276G, Spirit and Evolution of Mathematics .................................. 3
STAT 271G, Statistics for Psychological Sciences ........................................... 3

AREA III: LABORATORY SCIENCE (Select 8 credits)

AGRO/HORT 100G, Introductory Plant Science .............................................. 4
ANTH 130G/ANTH 130GL, Human’s Place in Nature: Introduction to Biological Anthropology ................................................................. 4
ASTR 105G, The Planets .................................................................................... 4
ASTR 110G, Introduction to Astronomy ............................................................ 4
BIOL 101G/101GL, Human Biology ................................................................ 4
BIOL 116G, Contemporary Problems in Biology ............................................. 4
BIOL 111G/111GL, Natural History of Life ..................................................... 4
BIOL 211G/211GL, Cellular and Organismal Biology .................................... 4
C S 117G, Introduction to Computer Sciences ................................................ 4
CHEM 110G, Principles and Applications of Chemistry .................................. 4
CHEM 111G, General Chemistry I .................................................................. 4
CHEM 112G, General Chemistry II ................................................................. 4
E S 110G, Introductory Environmental Science .............................................. 4
GEOG 111G, Geography of the Natural Environment .................................... 4
GEOL 111G, Survey of Geology ..................................................................... 4
GEOL 212G, The Dynamic Earth .................................................................. 4
HNF 263G, Food Science I .............................................................................. 4
HON 205G, Life, Energy, and Evolution ............................................................ 4
HON 219G, Earth, Time, and Life ................................................................. 4
PHYS 110G, Great Ideas of Physics ................................................................. 4
PHYS 120G, Introduction to Acoustics ............................................................... 4
PHYS 211G/211GL, General Physics I ............................................................ 4
PHYS 212G/212GL, General Physics II .......................................................... 4
PHYS 215G/215GL, Engineering Physics I ..................................................... 4
PHYS 216G/216GL, Engineering Physics II ..................................................... 4
PHYS 221G, General Physics for Life Sciences ................................................ 3
### AREA IV: SOCIAL/BEHAVIORAL SCIENCES (Select 6-9 credits)

- AG E 210G/HNFS 210G, Survey of Food and Agriculture Issues
- ANTH 120G, Human Ancestors
- ANTH 129G, Introduction to World Cultures
- ANTH 201G, Introduction to Anthropology
- ANTH 202G, Introduction to Archaeology and Physical Anthropology
- ANTH 203G, Introduction to Language and Cultural Anthropology
- AP 110G, Human Growth and Behavior
- CJ 101G, Introduction to Criminal Justice
- ECON 201G, Introduction to Economics
- ECON 216G, Principles of Microeconomics
- ECON 226G, Principles of Macroeconomics
- GEOG 112G, World Regional Geography
- GEOG 120G, Culture and Environment
- GOVT 100G, American National Government
- GOVT 110G, Introduction to Political Sciences
- GOVT 150G, American Political Issues
- GOVT 160G, International Political Issues
- HL 206G, Personal Health and Wellness
- HON 203G, Understanding the Science of Human Behavior
- HON 226G, The Human Mind
- HON 235G, The World of Anthropology
- HON 237G, Archaeology: Search for the Past
- HON 246G, The Citizen and the State: Great Political Issues
- HON 249G, American Politics in a Changing World
- JOUR 105G, Media and Society
- LING 200G, Introduction to Language
- PSY 101G, Introduction to Psychology
- SOC 101G, Introduction to Sociology
- SOC 201G, Contemporary Social Problems
- S W 211G, Introduction to Social Welfare
- S W 201G, Introduction to Women's Studies
- S W 202G, Representing Women Across Cultures

### AREA V: HUMANITIES AND FINE ARTS (Select 6-9 credits)

- ART 101G, Orientation in Art
- ART 116G, Visual Concepts
- ART 295G, Introduction to Art History I
- ART 296G, Introduction to Art History II
- DANC 101G, Dance Appreciation
- ENGL 115G, Perspectives on Literature
- ENGL 116G, Perspectives on Film
- ENGL 220G, Introduction to Creative Writing
- ENGL 244G, Literature and Culture
- HIST 101G, Roots of Modern Europe
- HIST 102G, Modern Europe
- HIST 111G, Global History to 1500
- HIST 112G, Global History Since 1500
- HIST 201G, Introduction to Early American History
- HIST 202G, Introduction to Recent American History
- HIST 211G, East Asia to 1600
- HIST 212G, East Asia Since 1800
- HIST 211G, Islamic Civilizations to 1600
- HIST 212G, Islamic Civilizations Since 1600
- HIST 208G, Music in Time and Space
- HIST 216G, Encounters with Art
- HON 120G, The World of the Renaissance: Discovering the Modern
- HIST 213G, Seeking the Way: Spirit and Intellect in Premodern China
- HIST 222G, Foundations of Western Culture
- HIST 225G, History of Ethics
- HIST 227G, Puzzles, Paradoxes, and Truth
- HIST 228G, Plato and the Discovery of Philosophy
- HIST 229G, Religion and the State
- HIST 231G, Bamboo and Silk: The Fabric of Chinese Literature
- HIST 234G, The Worlds of Arthur
- HIST 238G, Medieval Understandings: Literature and Culture in the Middle Ages
- HIST 241G, Telling American Stories: Society and Culture in Early America
- HIST 242G, Claiming an American Past
- HON 244G, Masterpieces of World Literature
- MUS 101G, Introduction to Music
- MUS 216G, History of Jazz in Popular Music: A Blending of Cultures
- PHIL 101G, The Art of Wondering
- PHIL 136G, The Quest for God
- PHIL 210G, Introduction to Philosophy
- PHIL 211G, Informal Logic
- PHIL 223G, Ethics
- Thetr 101G, Introduction to Theater

### Alternatives for Meeting General Education Requirements

Students taking nine or more credits in a specific subject area, even though the courses are not designated as General Education courses, will have met the general education requirements for that subject area. For example, a student may complete ART 150, 151, and 152 (9 hours) and thereby satisfy one course from the Area V: Humanities and Fine Arts category, even though none of those courses carries a G suffix. Please check with the office of the college associate dean or with college advisors.

### NMSU VIEWING A WIDER WORLD COURSES

Viewing a Wider World fosters intelligent inquiry, abstract logical thinking, critical analysis and the integration and synthesis of knowledge; it strives for literacy in writing, reading, speaking, and listening; it teaches mathematical structures, acquainting students with precise abstract thought about numbers and space; it encourages an understanding of science and scientific inquiry; it provides a historical consciousness, including an understanding of one’s own heritage as well as respect for other peoples and cultures; it includes an examination of values and stresses the importance of a carefully considered value system; it fosters an appreciation of the arts; and general education provides the breadth necessary to have a familiarity with the various branches of human understanding. All WWWW courses can be identified by the V suffix.

Prior to graduating, NMSU students are required to take two courses from the Viewing a Wider World list in the Undergraduate Catalog. These courses are upper-division (300-400 level) General Education courses and should be taken in a student’s junior and/or senior year. One of the two courses must be in a college other than their own. The other course may be taken within their home college, but this course (1) must be in a different department from their major department; (2) must not be cross-listed with a course in their home department; and (3) cannot be counted as one of the requirements for the student’s major.

These courses strongly emphasize the international character and multicultural influence in the fields of study and strengthen information retrieval skills. One of the courses (3 credits) can be replaced by study abroad experience, consisting of at least four weeks of a Study Abroad program or university coursework in a foreign country earning 3 credits.

**NOTE:** This list is under continuous revision. Please check with the office of the college associate dean or with college advisers for additional eligible courses.

### COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

- AG E/GEOG 315V, World Agriculture and Food Problems
- AG E/HORT 330V/HON 430V, Organic Fall Vegetable Production
- AG E/HORT 331V/HON 430V, Organic Spring Vegetable Production (s)
- AG E/ECON 337V, Natural Resource Economics
- AG E/ECON 384V, Water Resource Economics
- AG E 445V, Agricultural Policy
- AGRO 303V, Genetics and Society
- ANS C 351V, Agricultural Animals of the World
- EPWS 325V, Humans, Insects, and the Environment
- EPWS 380V, Ecosystem Earth: The Impact of Human Activities
- FCS 449V, Family Ethnicities and Subcultures
- HORT/RGSC 302V, Forestry and Society
- RGSC/HORT 302V, Forestry and Society

### COLLEGE OF ARTS AND SCIENCES

- ANTH 305V, Contemporary Native Americans
- ANTH 306V, Peoples of Latin America
- ANTH/HIST/SOC 330V, Introduction to Religious Studies
- ANTH 357V, Medical Anthropology
ANTH 360V, Food and Culture Around the World .................................................3
ANTH/SOC 361V, Social Issues in Rural America ..................................................3
ASTR 301V, Revolutionary Ideas in Science ...........................................................3
ASTR 305V, The Search for Life in the Universe ......................................................3
ASTR/HON 306V, Into the Final Frontier ..................................................................3
ASTR/HON 330V, Planetary Exploration ....................................................................3
CHEM 310V, Chemistry and Society .........................................................................3
C J 440V, Comparative Criminal Justice Systems ..................................................3
ENGL/THTR 321V, Modern European Drama ..........................................................3
ENGL 325V, Contemporary International Literature .................................................3
ENGL 327V, Shakespeare around the Globe ..............................................................3
ENGL 328V, Literature of Science Fiction and Fantasy ..............................................3
ENGL 335V, Studies in the Novel .................................................................................3
ENGL 339V, Chicano Literature ..................................................................................3
ENGL 341V, American Indian Literature ..................................................................3
ENGL/W S 380V, Writers Writers ..............................................................................3
ENGL 390V, The Arthurian Tradition .........................................................................3
ENGL 392V, Mythology .............................................................................................3
ENGL 394V, Southwestern Literature .........................................................................3
FREN 365V, Perspectives in French Culture ................................................................3
GEOG/AG E 315V, World Agriculture and Food Problems .....................................3
GEOG 325V, New Mexico and the American West ....................................................3
GEOG 326V, Geography of Latin America ..............................................................3
GEOG 331V, Europe ....................................................................................................3
GEOG 361V, Economic Geography ..........................................................................3
GEOG 365V, Cultural Geography ..............................................................................3
GEOG 365V, Urban Geography ..................................................................................3
GEOL 305V, Fossils and the Evolution of Life ............................................................3
GEOL 335V, Earthquakes, Volcanoes, Hurricanes, and Floods: The Role of Natural Hazards in Civilizations Past and Present .........................................................3
GES 333V, German Culture through Cinema ............................................................3
GOVT 300V, Contemporary World Political Ideologies .............................................3
GPHY 340V, Planet Earth ..........................................................................................3
HIST 301V, Origins of Modern Science .....................................................................3
HIST 302V, Science in Modern Society .....................................................................3
HIST 303V, History of Technology ..........................................................................3
HIST 311V, Colonial Latin America .........................................................................3
HIST 312V, Modern Latin America .........................................................................3
HIST 355V, The American West in Popular Culture .................................................3
HIST 359V, Latin America and the United States: Uneasy Neighbors ........................3
HIST/GOVT/GEOG 374V, Urban Geography ............................................................3
HIST 381V, Early Russia ............................................................................................3
HIST 382V, Modern Russia .......................................................................................3
LING 302V, Language and Society ..........................................................................3
MATH/HON 411V, Great Theorems: The Art of Mathematics ........................................3
PHIL 322V, Engineering Ethics ..................................................................................3
PHYS 301V, Photonics ................................................................................................3
PHYS 303V, Energy and Society in the New Millennium ..............................................3
PHYS 305V, The Search for Water in the Solar System .............................................3
PSY 417V, Intercultural Relations ..............................................................................3
SOC/ANTH/HIST 330V, Introduction to Religious Studies .......................................3
SOC 326V, Sociology of Popular Culture ..................................................................3
SOC 360V, Introduction to Population Studies ..........................................................3
SOC/ANTH 361V, Social Issues in Rural America .....................................................3
SOC/WS 374V, Comparative Family Systems ............................................................3
SOC 376V, Social Change ..........................................................................................3
SOC 394V, Sports and Society: A Global Perspective ...............................................3
SOC 458V, Comparative Global Family Systems .......................................................3
SOC 465V, Environmental Sociology .......................................................................3
SPAN 364V, Culture and Civilization of Mexico .......................................................3
SPAN 365V, Culture and Civilization of Spanish America .......................................3
THTR/ENGL 321V, Modern European Drama ..........................................................3
WS/SOC 374V, Comparative Family Systems ............................................................3
W S/ENGL 380V, Women Writers ..........................................................................3
W S 381V/HL S 380V, Women's Health Issues .........................................................3

COLLEGE OF BUSINESS
ACCT 305V, Accountability for Quality in Organizations ........................................3
BLAW 385V, Consumers and the Law .........................................................................3
ECON 324V, Developing Nations ..............................................................................3
ECON 325V, Economic Development of Latin America .............................................3
ECON 330V, The Business Economy of Mexico .........................................................3
ECON/MGT 335V, Business and Government ............................................................3
ECON/AG E 337V, Natural Resource Economics .....................................................3
ECON/AG E 384V, Water Resource Economics ........................................................3
ECON 432V, Economics of Health Care ..................................................................3
ECON/IB 450V, International Economics ..................................................................3
FIN 302V, Personal Financial Planning and Investing in a Global Economy ........................3
I B/ECON 450V, International Economics ...............................................................3
MGT 310V, The Faces of Entrepreneurs ....................................................................3
MGT 315V, Human Relations in Organizations .......................................................3
MGT/ECON 335V, Business and Government ..........................................................3
MGT 345V, Quality and Competitiveness: An International Perspective ....................3
MGT 360V, Negotiation and Business Conflict Resolution ........................................3
MGT 375V, Global Environmental Assessment and Management ............................3
MGT 388V, Leadership and Society ..........................................................................3
MKTG 311V, Consumer Behavior ..........................................................................3

COLLEGE OF EDUCATION
C EP 451V, Introduction to Counseling ....................................................................3
DANC 451V/HON 347V, World Dance .......................................................................3
EDUC 317V, Multicultural Issues in Society .............................................................3
EDU 350V, Introduction to Educational Leadership in a Global Society ....................3

COLLEGE OF ENGINEERING
C E 355V, Technology and the Global Environment .............................................3
CH E 356V, Brewing Science and Society .................................................................3
E T 309V, Manufacturing: History and Technology ................................................3
E T 360V, Technology in Business and Society ........................................................3
I E 310V, Continuous Quality Improvement ...........................................................3

COLLEGE OF HEALTH AND SOCIAL SERVICES
HLS 301V, Human Sexuality ....................................................................................3
HLS 305V, Global Environmental Health Issues .......................................................3
HLS 301V/W S 381V, Women’s Health Issues ..........................................................3
HLS 463V, Cross-Cultural Aspects of Health ............................................................3
NURS 383V/HON 383V, Community and Public Service ..........................................3
S W K 331V, Introduction to Social Policy: History ..................................................3

UNIVERSITY LIBRARY
LIB 311V, Information Literacy ..................................................................................3

COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES
HON 319V, The Natural World of Thomas Jefferson ................................................3
HON 320V, Food and Humanity: World in Crisis .....................................................3
HON 321V, Agriculture in an Urban World ...............................................................3
HON 323V, Cultural Perspectives on Dress ................................................................3
HON 430V/AG E 330V/HORT 331V, OASIS: Managing a Community Supported Farm .........................................................................................................................3

COLLEGE OF ARTS AND SCIENCES
HON 301V, Mass Media and Society .......................................................................3
HON 304V, Dilemmas of War and Peace ..................................................................3
HON 305V, Global Environment ..............................................................................3
HON 306V, Science and Ethics ..................................................................................3
HON 307V, The Political World of Women ...............................................................3
HON/ASTR 308V, Into the Final Frontier ..................................................................3
HON 311V, Intercultural Communication ................................................................3
HON 317V, Cultural Lessons of Nazism ....................................................................3
HON 318V, The World of Cinema .............................................................................3
HON 322V, Science and Public Policy ......................................................................3
HON 325V, Contemporary International Literature ...............................................3
HON 326V, Art and Mythology ..................................................................................3
HON 327V, The Novel ................................................................................................3
HON/ASTR 330V, Planetary Exploration ..................................................................3
HON 331V, Using a Telescope: Observation, Technology, and Analysis in Astronomical Research ........................................................................................................3
HON 346V, Perspectives on Violence ........................................................................3
HON 348V, Comparative Mythology: Myth, Ritual and the Life Cycle ......................3
HON 349V, Islam and the West ..................................................................................3
HON 350V, Law, Culture, and Conflict ....................................................................3
HON 351V, Interpersonal Relations and the Self .........................................................3
HON 352V, Crime, Justice, and Society ................................................................. 3
HON 353V, Justice without Prejudice ................................................................... 3
HON 355V, Sexuality in Christianity and Islam ....................................................... 3
HON 356V, Contemporary African and Caribbean Fiction .................................... 3
HON 360V, The Gothic Imagination ................................................................. 3
HON 370V, Design: The Creative Act .................................................................. 3
HON 374V, The European City ............................................................................ 3
HON 376V, Latin American Women Writers ...................................................... 3
HON 377V, Freedom of Speech and the Law ....................................................... 3
HON 378V, Technology and Policy ....................................................................... 3
HON 379V, Literature as Film ............................................................................. 3
HON 382V, Contemporary Multicultural Women’s Literature ............................... 3
HON 383V, The Sixties: Society, Culture, and Change ....................................... 3
HON 387V, Comparative Perspectives on Women .............................................. 3
HON 388V, Leadership and Society ..................................................................... 3
HON 392V, Vietnam: America’s Longest War .................................................... 3
HON 394V, Southwestern and Border Literature ................................................. 3
HON/MATH 411V, Great Theorems: The Art of Mathematics ....................... 3

COLLEGE OF BUSINESS
HON 335V, Legal Issues in Modern Society ................................................... 3
HON 360V, Working in Teams ........................................................................... 3
HON 380V, Comparative Economic Systems .................................................. 3
HON 385V, Consumers and the Law ................................................................. 3
HON 386V, Women in the Economy ................................................................. 3

COLLEGE OF EDUCATION
HON 347V/DANC 451V, World Dance ............................................................... 3

COLLEGE OF HEALTH AND SOCIAL SERVICES
HON 393V/NURS 383V, Community and Public Service ................................. 3

Alternatives for Meeting Viewing a Wider World Requirements

Students taking nine or more credits in a specific subject area, even though the courses are not designated as Viewing a Wider World courses, will have met the VWW requirements for that subject area.

The 9 credit hours must be in 300- to 400-level courses in one prefix area. For example, 9 upper-division ECON credits would fulfill one VWW area for students majoring in colleges other than Business.

REGULATIONS

These regulations apply to all campuses of NMSU and are effective with the publication of this catalog. Tuition amounts, fees, and similar items subject to annual review and change are all effective with the current catalog.

University Credits

The unit of university credit is the semester hour, which is the equivalent of one hour’s recitation or a minimum of two hours of practice per week for one semester.

Class Rank (Classification)

A student’s classification depends upon the number of credits completed toward graduation. Sophomore rank is achieved with successful completion of 28 credits; junior rank, 62 credits; senior rank, 94 credits.

Class Load

The normal load in a regular semester is 16-18 credits in all colleges of the university. An overload is more than 18 credits. A normal load during the summer term is the same number of credits as there are weeks in the session. Written permission for the student to register for an overload must be obtained from the dean of the student’s college. To be eligible to take an overload, the student must have a cumulative grade-point average for the two preceding semesters of 2.5, with no grade less than C. A one-credit course in physical activity may be taken without being included in the calculation for determining an overload. No freshman will be permitted to assume an overload. Students may enroll for correspondence or extension courses only upon approval of the dean of their college. Such courses must be counted as part of a student’s class load. No more than 30 credits in extension and correspondence courses will be accepted toward graduation.

Basic Academic Skills

NMSU requires all students to demonstrate basic academic skills in both English and mathematics to ensure that they have the abilities to succeed in upper-division courses numbered 300 or higher. First-time students must meet both of these requirements before enrolling in any upper-division courses. Transfer students with 45 or more credits will be allowed to enroll in upper-division courses for one semester. After that point, they must meet both of these requirements before enrolling in upper-division courses. The options for satisfying basic skills in English and mathematics are listed below:

Completion of basic skills requirements will not necessarily satisfy university general education requirements in English and mathematics. Students should consult the “General Education Courses and Requirements” section in this chapter for these requirements.

English Basic Skill Requirement Options

- 30 ACT English Score. Students may satisfy basic skills requirements in English by scoring 30 or higher on ACT English exams. However, students must still earn credit for ENGL 111G by one of these options:

  - ENGL 111G or ENGL 111H. Students may satisfy English basic skills by passing ENGL 111G or ENGL 111H with a grade of C or higher.
  - CLEP Credit. Students may earn credit for ENGL 111G or ENGL 111H by taking the College Level Examination Program subject exam in freshman composition with a score of 57 (top quartile) or higher. See “Credit by College Level Placement Examination” later in this chapter for details.

- Advanced Placement Credit. Students may receive advanced placement credit for ENGL 111G or ENGL 111H by scoring 3, 4, or 5 on the English Advanced Placement Exam. See “Advanced Placement” later in this chapter for details.

- Transfer Credits. Students may receive credit for ENGL 111G by transferring 3 or more credits of college-level English composition, with a grade of C or above from another accredited institution. International students may be required to meet the requirements under “SPCD 111G” below.

- Transfer Credits. Nonaccredited Institutions. Students may receive credit for ENGL 111G by transferring 3 or more credits of college-level English composition with a grade of C or higher from a nonaccredited institution, and by writing a theme which is judged adequate by the Department of English.

- SPCD 111G. International students who took the TOEFL examination must complete SPCD 111G with a satisfactory grade.

- Developmental Courses. Students who score below 12 on the ACT English exam must pass two developmental English courses (CCDE 105N, CCDE 110N) before enrolling in ENGL 111G. Students who score 13 to 15 on the ACT English exam must pass one developmental English course (CCDE 110N) before enrolling in ENGL 111G. Developmental courses are included on the transcript and will be included in the calculation of the GPA; however, credits in developmental courses will not count toward a degree.

Mathematics Basic Skill Requirement Options

- 23 ACT Mathematics Score. Students may satisfy basic skills requirements in mathematics by scoring 23 or higher on ACT mathematics exams. However, students must still fulfill the general education math requirement.

- Coursework. Students scoring below 23 on ACT mathematics exams may satisfy basic skills in mathematics by earning a grade of C or higher in one of the following courses or course combinations: (a) CCDM 112N and CCDM 113N; (b) CCDM 114N; (c) MATH 111 and MATH 112G; (d) any mathematics course numbered 115 or above. New students are placed in these courses according to their high school GPAs and their ACT scores in mathematics. However, new engineering students must take the mathematics placement exam (MPE), and any new student may choose to take the MPE to test toward a higher placement. Placement does not earn academic credit, and placement in a mathematics course numbered 115 or higher does not satisfy the basic skills requirement.

- Basic Skills Exam. Students may take the Basic Skills Exam, which is offered twice a semester by the Department of Mathematical Sciences. A passing score will meet the basic skills requirement, although it will not appear as credit on the student’s transcript.
• Advanced Placement Credit. Students may receive credit for courses which may satisfy basic skills in mathematics by taking the math Advanced Placement Exam. See “Advanced Placement” later in this chapter for details.

• Developmental Courses. Students who score 15 or below on the ACT mathematics exam must pass two developmental mathematics courses, CCDM 103N and CCDM 114N, to qualify to enter university-level mathematics courses. Students who score 16 on the ACT mathematics exam must pass CCDM 114N to qualify to enter university-level mathematics courses. Students who score 17 or higher on the ACT mathematics exam, but whose mathematics placement exam scores do not qualify them to enter university-level mathematics courses, will be placed in the appropriate CCDM course, and must pass the CCDM course or courses before enrolling in university-level mathematics courses. Developmental courses are included on the transcript and will be included in the calculation of the GPA; however, credits in developmental courses will not count toward a degree.

Satisfactory Progress
A full-time student is making satisfactory progress when the cumulative number of credits earned at NMSU, divided by the number of semesters attended at NMSU, equals at least 12. Part-time students must earn a proportional number of credits in the same time period for purposes of financial aid. In the case of new freshmen, this definition will not be applied until the beginning of the third semester of enrollment; however, for all other students, it will apply after one semester of enrollment. All students at the end of their second academic year must have a cumulative 2.0 GPA.

University Grading System
Grade reports are not automatically mailed to students. Students can access grades and credits by the web using their PIN. Once accessed, grade reports can be ordered and will be mailed to the student’s grade address on file. It is the responsibility of the student to provide updated grade addresses to the Office of the Registrar. At the request of the student, the instructor will provide information on progress in the course prior to the last day to drop a course.

The NMSU system of grading is expressed in letters, which carry grade points used in calculating the cumulative grade-point average:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>For excellent work</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>For better than average work</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>For average work</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>For below average work</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>For failing work</td>
<td>0</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
<td>0</td>
</tr>
<tr>
<td>N</td>
<td>Grade not submitted</td>
<td>0</td>
</tr>
<tr>
<td>CR</td>
<td>Credit authorized, but not letter grade</td>
<td>0</td>
</tr>
<tr>
<td>IP</td>
<td>In progress</td>
<td>0</td>
</tr>
<tr>
<td>PR</td>
<td>Progress in undergraduate course</td>
<td>0</td>
</tr>
<tr>
<td>PR</td>
<td>Progress on graduate thesis</td>
<td>0</td>
</tr>
<tr>
<td>S*</td>
<td>Satisfactory work</td>
<td>0</td>
</tr>
<tr>
<td>U</td>
<td>Unsatisfactory work</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
<td>0</td>
</tr>
<tr>
<td>AU</td>
<td>Audit</td>
<td>0</td>
</tr>
</tbody>
</table>

*An S grade is a grade satisfactory to the professor and is normally equivalent to the letter grade of C or higher.

In computing the overall grade-point average, the total credits in which grades of A, B, C, D, or F have been assigned is divided into the total number of grade points earned.

A course for which only CR, but no letter grade, is given and a course in which an S or PR grade is earned may be counted toward graduation but is not computed in the grade-point average.

Prerequisite
A prerequisite is an enforceable entry requirement for a particular course.

Repeating Courses
A student may repeat a course in which a D or F grade has been earned at this university. A computable grade (excluding I, W, RR, AU, CR, S, or U) in a repeated course may be substituted in the calculation of the grade-point average, though the original grade also remains on the transcript. The first occurrence with a C or better grade will count in earned/passed hours. Future attempts will not count in earned/passed hours. If a student repeats a course eligible for grade substitution in which they have earned a D and then fails the course, the second grade of F will not be substituted for the original grade.

Neither credits nor grade points may be earned by repeating a course for which a grade of C or higher has already been received. Repeat option applies only to eligible courses that were completed prior to the time a student was awarded a baccalaureate degree at NMSU.

Incomplete Grade
The grade of I (incomplete) is given for passable work that could not be completed due to circumstances beyond the student’s control. The following regulations apply to removing or changing an I grade.

1) Instructors may assign I grades only if the student is unable to complete the course due to circumstances beyond the student’s control that develop after the last day to withdraw from the course. Examples of appropriate circumstances include documented illness, documented death or crisis in the student’s immediate family, and similar circumstances. Job related circumstances are generally not appropriate grounds for assigning an I grade. In no case is an I grade to be used to avoid the assigning of D, F, U, or RR grades for marginal or failing work.

2) To assign an I grade, the instructor must complete the I Grade Information Form and have the form delivered to the course dean, together with the instructor’s grade sheets for the semester. The instructor will state in writing on the I Grade Information Form the steps necessary to complete the remaining coursework or the instructor may indicate that the student will be required to re-enroll in the course to receive credit (in which case the I grade will not be removed). The student will sign this document or the course dean will send a copy of the document to the student’s official permanent address as recorded in the Registrar’s Office.

3) The student is entitled to have the I grade removed from their transcript only if they complete the remaining coursework as specified on the I Grade Information Form, in a manner satisfactory to the instructor. The work must be completed within 12 months after the I grade is assigned and prior to the student’s graduation, or within a shorter period of time if specified by the instructor on the I Grade Information Form. If the student fails to complete the coursework, the instructor may change the I grade to any appropriate grade (including D, F, or U) provided that the instructor stated that this would occur on the I Grade Information Form.

4) I grades can be removed from the student’s transcript by the instructor only during the 12-month period following assignment of the I grade or prior to the student’s graduation, whichever comes first. To remove an I grade, the instructor must complete a Change of Grade Form and file the form with the Registrar. The instructor may assign whatever grade is appropriate for the entire course. This may include grades of D, F, or U. An I grade not changed by the assigning instructor within 12 months and prior to graduation shall remain an I grade thereafter.

5) A student may re-enroll and receive credit for any course for which an I grade was previously received, but retaining the course will not result in a removal of the I grade from the student’s transcript.

The effect of removing an I grade on a student’s academic standing (scholastic warning, probation, or suspension) depends on the date the transaction is officially recorded on the student’s academic record. If the transaction is recorded before the student begins another semester, the grade replacing the I is included in the grade-point average calculation that establishes the student’s academic standing. If the transaction is recorded after the student begins another semester, the new grade’s effect on academic standing is based upon its inclusion with grades for the semester in which the student is enrolled.

RR Grade
The RR grade applies only to designated skill development undergraduate courses approved by the University Curriculum Committee and indicates the student has made substantial progress toward completing the requirements of the course. It carries neither penalty nor credit. The student must re-enroll and successfully complete the course in order to earn credit. The grade of RR may be received only once in any given course, and it remains on the student’s transcript.

S/U Option
Students with 28 credits at NMSU under traditional grading, with an overall average of 2.5 or better, may exercise the S/U option. The following limitations apply:
1) No more than 7 credits per semester or 4 credits per summer session.
2) Not to exceed a total of 21 semester credits.

These limitations do not apply to honors and courses officially designated S/U.

Each course under this option must be requested during registration. Eligibility must be determined by the student’s academic dean and certified by the student. The course must be taken outside the major. If the student changes majors, the new major department may require a traditional grade for a course previously passed with an S grade. The traditional grade change is made by the instructor or by a course challenge if the original instructor is no longer with the university.

Eligibility for S/U grading must be re-established after adjusted credit has been approved.

Nondegree students who do not meet the above requirements may take courses under the S/U option. However, these courses may not be applied toward an undergraduate degree at NMSU.

Graduate students in regular standing may take courses for the S/U option, outside the major department, under regulations stated in the Graduate Catalog.

Each academic college of the university may designate courses in which the grading will be on a basis of S or U for all students enrolled in the courses. Credits in such courses are not included in the 21-credit limitation or the 7-credit-per-semester limit.

Grade Point Average

A student’s NMSU semester and cumulative GPAs will be based solely on courses taken at NMSU or under an approved National Student Exchange.

Independent Studies

Independent study courses (including directed reading and special topics courses which do not carry a subtitle) are for students capable of self-direction who meet the requirements for the S/U option. Therefore, if the students are not eligible for the S/U option, they are not eligible for independent study. Each college determines the maximum number of credits that may be earned in independent study courses.

Adjusted Credit Option

The adjusted credit option allows students who obtain a low grade-point average (less than 2.0 cumulative) during their first few semesters to get a fresh start. This option may be used only once and is not reversible. All courses carrying a grade of S, CR, C, or better earned prior to the grading period in which the student requests the adjusted credit option (including transfer courses) are included as adjusted credit. All allowable credits are designated on the permanent academic record as “adjusted credit” and are omitted from the calculations of the cumulative grade-point average.

A fee of $10 is required for the submission of an adjusted credit option application. Application forms are available in the offices of the academic deans. Students applying for this option must:

1) not hold a baccalaureate degree;
2) be currently enrolled as a regular/nondegree undergraduate student;
3) have a cumulative grade-point average of less than 2.0 at NMSU;
4) have successfully accumulated fewer than 60 transfer plus NMSU credits;
5) exercise the option only during the fall or spring semester before the last day to withdraw from the university; and
6) pass an additional 30 graded credits before they may be awarded an associate’s degree.

Other courses taken during the period of credit adjustment are not calculated in the cumulative grade-point average. The repeat rule for courses starts anew for students who have taken the adjusted credit option.

Credits covered by this option are shown on the transcript with an appropriate notation, and all coursework attempted is shown. In no circumstances will a transcript of this record be issued that does not include all courses attempted at this university.

Probationary status and eligibility for on-campus employment is not affected by the exercise of the adjusted credit option.

Students are eligible for university honors if the criteria for university honors are met for all courses taken at NMSU after the period of adjusted credit.

Transfer Credits

For the policy on transfer credits see “Transfer of Credits at NMSU” earlier in this chapter.

National Student Exchange (NSE)

For the policy on transfer credit for courses taken in the National Student Exchange program, see this heading earlier in this chapter.

Credit by College Level Examination Program (CLEP)

Prior to or during a student’s enrollment at NMSU, credits may be earned through the College Level Examination Program (CLEP) of the College Entrance Examination Board. CLEP is a national program of credit by examination that offers the opportunity to earn credits for college level achievement wherever or however the student learned.

Earned CLEP credit will be treated as transfer credit without a grade, will count toward graduation, and may be used in fulfilling specific curriculum requirements.

A current NMSU CLEP policy as well as test schedule information is available through Testing Services in Garcia Annex, Room 235. Testing Services may be reached at (575) 646-1921.

Advanced Placement

Students who have completed college-level courses in secondary schools and have taken the Advanced Placement Examinations of the College Examination Board with resulting composite scores of 3, 4, or 5 may receive college level credit. The amount of credit and the equivalent university courses for which credit will be granted will be determined by the head of the department in which the course is offered. Such credit will be treated as transfer credit without a grade, will count toward graduation, and may be used in fulfilling specific curriculum requirements.

Credit for Military Service

A veteran or member of the active armed services or the military reserves who is a current student or a student applying for admission to New Mexico State University may be granted academic credit on a case-by-case basis. Specific course equivalencies and credit hours awarded are determined by academic departments. Credit hours may be awarded for specific courses or as elective credit. The number of credit hours awarded will be determined by the department.

New Mexico State University will allow credit to United States military personnel for courses and/or military occupational specialties (MOS), based on the American Council of Education Guide (ACE) as well as through national standardized tests, such as CLEP, AP, PEP, and DANTES. NMSU does not use Military Occupational Specialties (MOS) for granting credit since MOS credits are listed in the ACE Guide. A copy of the SOCAD Student Agreement must be provided as well as the Sailor/Marine ACE Registry Transcript System (SMARTS), Army/ACE Registry Transcript System (AARTS), or Community College of the Air Force (CCAF), along with transcripts from any other academic institution wherein credit was granted. Coursework credit for current or applying students will be reviewed as any other academic transcript that is submitted as an official transcript to the NMSU Office of Admissions. Courses accepted for transfer credit will appear on official NMSU transcripts as transfer credits.

If a student wishes to appeal a decision regarding the acceptance of military training/education for academic credit, the student must submit a written statement of appeal to the Dean of the College to which the student has applied. The Dean will review the merits of the appeal and render a decision. The decision of the Dean is final.

Academic credit for military service was terminated with the beginning of the fall semester 1975 for honorably discharged veterans whose term of service began September 1, 1974, or later.

Those receiving honorable discharges who entered active duty prior to September 1, 1974, may petition the head of Military Science or the head of Aerospace Studies at NMSU for verification of term and experience of military service for evaluation of credit.

Credit by Examination

Any enrolled student with a cumulative GPA of at least 2.0 currently attending classes may, with permission of the appropriate department, challenge by examination any undergraduate course in which credit has not been previously earned except an independent study, research or reading course, or any foreign language course that precedes the final course in the lower-division sequence. The manner of administering the examination and granting permission shall be determined by the department in which the course is being challenged.

Students may not enroll in a single course, challenge it by examination, and drop it during the drop/add period, unless they enroll in an additional course.

Advanced Placement

Students who have completed college-level courses in secondary schools and have taken the Advanced Placement Examinations of the College Examination Board with resulting composite scores of 3, 4, or 5 may receive college level credit. The amount of credit and the equivalent university courses for which credit will be granted will be determined by the head of the department in which the course is offered. Such credit will be treated as transfer credit without a grade, will count toward graduation, and may be used in fulfilling specific curriculum requirements.

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A current NMSU CLEP policy as well as test schedule information is available through Testing Services in Garcia Annex, Room 235. Testing Services may be reached at (575) 646-1921.
In exceptional cases in which a student demonstrates outstanding ability in a course in which he is already registered, he may be permitted to challenge the course.

A student desiring to apply for special examination may obtain the necessary forms from the Office of the Registrar. The fee for challenging a course is the same as the approved tuition rate.

A grade of Cor better is required for credit and will be recorded on the student’s record as CR. Courses may not be challenged under the SU option.

The special examination privilege is based on the principle that the student, exclusively, has the responsibility for preparing for a special examination.

Audits

A regularly enrolled student may register for any course prior to the last day of registration as an auditor without credit with the consent of instructor, provided the facilities are not required for regular students. The fee is the same as for credit courses. Audit courses are not considered in determining the maximum load except for students on probation and graduate students. A student may not change from credit to audit after the last day to register but may withdraw and continue to attend with the permission of the instructor.

Changes in Registration

Registration changes may be processed only in accordance with university regulations and with appropriate signatures. It is the responsibility of the student to initiate official withdrawal from a course.

Forms are available from the academic adviser or in the deans’ offices. Courses may not be added or dropped after the cutoff date indicated in the university calendar. For refund policy, see the “Costs” section of the catalog.

When a student officially drops a course, the W grade is assigned as follows:

1) No grade is assigned during the registration period.
2) A W grade is assigned to any student who officially drops a course during the first half of its duration. A student may not officially withdraw from a course after this time. All drop forms must be signed and dated by the instructor of the course and the adviser.
3) A grade of W is assigned in all courses to any student officially withdrawing from the university prior to the last three weeks of classes.

A student found insufficiently prepared to carry a regular course may be transferred to a more elementary course in the same field any day before the last day to officially withdraw from an individual course.

Any person attending under Veterans Educational Assistance should notify the Office of Veterans’ Programs if dropping or adding courses changes enrollment status for benefits.

Withdrawal from NMSU

Withdrawal from any NMSU campus is an official procedure that must be approved as indicated on the withdrawal form. All such withdrawals will be registered on the student’s transcript. It is the student’s responsibility to initiate withdrawal from the university and to obtain necessary signatures. Students who leave without following the official procedure are graded appropriately by the instructor. On the Las Cruces campus, withdrawal begins at the Registrar’s Office. At all other campuses, withdrawal begins at the Student Services Office. Applicable dates are published in the university calendar for all regular sessions.

Attendance and Student Performance

Students are expected to attend regularly all classes for which they are registered. Students making satisfactory progress in their classes will be excused from classes when they are representing NMSU on a university sponsored event (e.g. ASNMSU president representing NMSU at legislative session, student athletes competing in NMSU scheduled athletic events, or students attending educational field trips and conferences). Authorized absences do not relieve the student of their class responsibilities. Prior written notice of the authorized absence will be provided to the instructor by the sponsoring department. Specific class attendance requirements are determined by the instructor of the course.

When the number of absences hinders a student’s progress in a course, the instructor may initiate a statement of the student’s excessive absences including a recommendation of retention or expulsion from the class. Based on the recommendation of the instructor and with the concurrence of the course department head and the student’s academic dean, a student will be dropped for persistent absences or for persistent failure to complete assignments. Similarly, a student may also be dropped from a class for engaging in behavior that interferes with the educational environment of the class. Any student who has been dropped from a class shall have the right to appeal that decision through the Student Academic Grievance Policy.

Only enrolled students, for credit or for audit, are permitted to attend classes. A student who has officially withdrawn from a course may continue to attend the course with the permission of the instructor for the remainder of the semester.

Students not enrolled may visit classes only with the permission of the instructor.

Administrative Withdrawals

When an administrative withdrawal from a course is initiated for a student who is representing the university at an official out-of-town event, the withdrawal will become effective upon the return of the student to the university from that event or five class days after the signed drop slip arrives in the dean’s office, whichever is sooner.

Nondegree Status

See “Nondegree Admission,” earlier in this chapter.

Veterans’ Attendance and Satisfactory Progress

The Veterans’ Administration requires all veterans attending under the Veterans Educational Assistance Benefits to make satisfactory progress and systematic advancement toward an educational objective or be liable for over payments from the Veterans’ Administration. Satisfactory progress and regular class attendance are expected of such students.

If a veteran receiving benefits is suspended for academic reasons, benefits are terminated and will be restored only after readmission to NMSU.

If the university has liability claims filed against it as a result of a veteran failing to meet compliance requirements of the Veterans’ Administration, the university will not release any academic records on the veteran until such time as the veteran has reimbursed the federal government for funds drawn in violation of those requirements.

Military Withdrawal

The following steps must be taken by all New Mexico State University graduate students called up for active duty who wish to withdraw from all their classes:

a) Veterans’ Programs. VA students ordered to Active Duty must provide a copy of orders to the Veterans’ Program Office, Jacobs Hall, Room 214.

b) Office of the Registrar. All students presenting their orders to the Office of the Registrar, (575) 646-3411, will receive a military withdrawal from classes and a full tuition and fees refund for that semester.

c) Bookstore. Students who still have their receipts for textbooks purchased the semester in which they are called to active duty will be given a full refund for these textbook purchases when they present their orders. (575) 646-4431.

Privacy Rights

The following information has been designated as directory information and is subject to release to the public under the Buckley Amendment (PL 98-380), “The Family Educational Rights and Privacy Act of 1974”: Student’s name, address, email address, telephone listing, date and place of birth, major field of study, classification, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent, previous educational agency or institution attended by the student.

Other information regarding disclosure of student data is posted at the Office of the Registrar in compliance with the Act.

Requests for withholding directory information must be filed in writing with the Office of the Registrar.

Social Security Numbers in Student Records

As required by law, social security numbers are collected from prospective and current students who 1) plan to seek employment on campus or 2) wish to receive financial aid. In addition, the university is mandated by federal tax regulations to provide tuition and fee payment information to the student and the Internal Revenue Service, so that applicable educational tax credits may be computed. The social security number will be necessary to submit this tax reporting. The social security number is a confidential record and is maintained as such by the university in accordance with the Family Educational Rights and Privacy Act.
Academic Appeals

Procedure for Initiating Grievance Complaints: This procedure has been established to provide a method to resolve undergraduate student grievances at the lowest administrative level in a fair and expeditious manner. For the purpose of this procedure, grievances are limited to alleged violations of university policy or procedures by the university or its employees, disputes with faculty and/or alleged unfair treatment. Usually this method is used to appeal a grade the student feels was not justified. Under no condition should these policies be used when the student has allegedly violated the University Code of Conduct or a contractual agreement, and at no hearing should either party have a lawyer. Any student who believes that he/she has been unjustly treated within the academic process may proceed as far as necessary in the steps detailed below. Should the alleged grievance not involve a faculty member or course, the student is to appeal directly to the department head or associate dean for academics in whose area or college the alleged grievance occurred.

1) Appeal to the faculty member: The student is to submit a written appeal to the faculty member within 30 days after the start of the semester following the semester in which the alleged grievance occurred. Semester in this case refers to fall and spring only. If the alleged grievance occurs during the summer session, the student is to submit an appeal no later than 30 days into the fall semester following the summer session in which the alleged grievance occurred. The faculty member and the student are to discuss the problem. The faculty member will submit a written report outlining his or her decision to the student and department head or appropriate unit designee within ten working days of receipt of the student’s written appeal.

2) Appeal to the department head or appropriate unit designee: If a decision satisfactory to the student cannot be reached, the student may submit a written appeal to the department head or appropriate unit designee in which the course in question is taught. This is to be done within ten days of the receipt of the faculty member’s written decision. The faculty member, the department head or appropriate unit designee, and the student are to meet to discuss the problem. The department head or appropriate unit designee will send a written response outlining his or her decision to the student and faculty member within ten days of this meeting.

3) Appeals to the associate dean for academics or associate dean of the library: If a satisfactory decision cannot be reached among the department head or appropriate unit designee, the faculty member, and the student, the student or the faculty member may submit a written state of appeal to the associate dean for academics of the college in which the course was taught. This is to be done within ten working days after the receipt of the written decision by the department head. The associate dean may request a written recommendation from an Academic Appeals Board. Should this be the case, the Academic Appeals Board will conduct a hearing with the student and faculty member (not necessarily at the same time) to review the merits of the appeal. They may also ask for supporting evidence for or against the appeal. The Academic Appeals Board will submit the written recommendation to the associate dean within five working days following the conclusion of their process. The associate dean may meet with the student, faculty member, and department head to discuss the appeal (not necessarily at the same time). The associate dean will submit a written response outlining his or her decision to the student, faculty member, department head, and dean within ten days of the last meeting.

4) Appeals to the dean: The dean of the college or library in which the course is taught or in whose college the alleged grievance occurred may, at his or her discretion, review the appeal upon the written request of the student or faculty member and render a final decision. An appeal to the dean is the last step in the appeals process and the dean’s decision cannot be appealed further. Should the dean not choose to review the appeal, the decision of the associate dean for academics or associate dean of the library is final.

5) Exceptions to the time involved: The associate dean for academics or associate dean of the library may waive the normal time frame for appeals for compelling reasons. Regardless of circumstances, academic appeals must be initiated with the course instructor within two years of the conclusion of the semester or summer session in which the course was taken.

6) Enrollment: A student need not be enrolled at the university to initiate an appeal.

Academic Appeals Board:

Within each college of the university or the library an academic appeals board will be appointed by the associate dean for academics to hear student appeals. The appeals board will consist of three faculty members and two students.

Maintenance of Records:

Instructors and/or departments shall keep records used to compute individual grades for two years after the completion of a course. If a grade has been appealed, these records shall be kept for at least two years after completion of the appeal. Departments, colleges, or library may require that records be kept for longer periods.

Academic Misconduct

Students at NMSU are expected to observe and maintain the highest academic, ethical, and professional standards of conduct. Any student found guilty of academic misconduct shall be subject to disciplinary action. Academic misconduct includes, but is not limited to, the following actions:

1) Cheating or knowingly assisting another student in committing an act of cheating or other forms of academic dishonesty;
2) Plagiarism, which includes, but is not necessarily limited to, submitting examinations, themes, reports, drawings, laboratory notes, undocumented quotations, computer-processed materials, or other material as one’s own work when such work has been prepared by another person or copied from another person;
3) Unauthorized possession of examinations, reserve library materials, or laboratory materials;
4) Unauthorized changing of grades on an examination, in an instructor’s grade book, or on a grade report or unauthorized access to academic computer records;
5) Nondisclosure or misrepresentation in filling out applications or other university records or, for academic departments or colleges.

ACADEMIC STANDING

Please see section on incomplete, I, grades to determine the effect of removal of I grades on academic standing.

Academic Warning, Probation and Suspension:

When students do not maintain adequate academic standing, they begin a progress of Academic Warning to Academic Probation I and II, and finally to Academic Suspension. Each stage imposes more structure and limitations on the student in order to help them return to normal academic standing. The intent is not to punish, but to help the student return to normal academic standing and success. Since some of these limitations involve limitations on the number of credit hours, students on Probation or Suspension may be subject to loss of financial aid. It is the responsibility of the student to determine the impact of their changed academic standing on their financial aid. Notification to students of academic warning, probation, or suspension appears on the student’s grade report at the end of each grading period.

Academic Warning: Issued only once, the first time a student’s cumulative GPA falls below a 2.0 while in good academic standing. The relevant associate dean for academics or campus academic officer will send the student a letter detailing the consequences should the cumulative grade point remain below a 2.0 at the conclusion of the semester.

While under Academic Warning the following restrictions apply:

1. The student may be required to enroll in a 3-hour special study skills/time management course specifically designed for students on Academic Warning for the first time, or an equivalent approved by the appropriate associate dean or CAO of their campus.
2. Students will be required to enter into a contract with their adviser, approved by their department head that place further stipulations on Academic Warning. The contract may include, but is not limited to the following:
   • The student may be required to take at least one repeat course to try to greatly improve the GPA.
   • Except for the special study skills/time management course, the student’s coursework may be restricted to the major.
   • The student may be required to get tutoring help.
• The student may be required to see an academic counselor on a specified time schedule.
• The number of hours a student may register for may be restricted (due to extenuating circumstances such as the student’s workload commitments).

The associate dean or CAO may place the student on Academic Probation I should the student not adhere to the stipulations of the contract.

If the student’s semester GPA is less than a 2.0, and the cumulative GPA remains below 2.0 at the end of the semester on Academic Warning, the student is placed on Academic Probation I. If the semester GPA is greater than 2.0 but the cumulative GPA is still less than 2.0, the student will remain on Academic Warning. If the cumulative GPA is greater than a 2.0 at the end of the semester then the student is returned to good academic standing.

Summer Courses:
A student may use summer classes to try to get warning or probationary status removed. Under no circumstances may a student on Academic Warning or Academic Probation be allowed to register for an overload.

Academic warning status is continued if the student withdraws from the university. Probation or suspension status applies to all subsequent enrollments.

Academic Probation.

There are two stages in Academic Probation.

Academic Probation I: This occurs when a student under Academic Warning has a semester GPA less than 2.0, and the cumulative GPA remains below 2.0 at the conclusion of the semester or if the student maintains a semester GPA greater than 2.0 while on Academic Probation I but the cumulative GPA is still less than 2.0.

Under Academic Probation I the following conditions apply:

1. The student cannot enroll in more than 13 hours of coursework during the semester. Note: Students falling below 12 credits in any one semester will jeopardize their financial aid. Should this occur, students should see the associate dean in their college as soon as possible to try to implement corrective measures.

2. The student will enter into a contract or individualized education plan with their advisor and approved by the associate dean or CAO that place further stipulations on Academic Probation I. The associate dean or CAO may place the student on Academic Probation II or Academic Suspension should the student not adhere to the stipulations of the contract.

3. Students on Academic Probation receiving educational benefits from the Veterans’ Administration must obtain counseling from the Office of Veterans’ Programs. The student must maintain a semester GPA equal to or greater than 2.0 until such time that the cumulative GPA is greater than 2.0 at which time the student goes back to good academic standing. Until the latter happens the student remains on Academic Probation I. The student will be placed on Academic Probation II if unable to maintain a 2.0 semester GPA, and the cumulative remains below a 2.0 GPA, while under Academic Probation I.

Academic Probation II: Issued when a student falls below a semester 2.0 GPA, and the cumulative remains below a 2.0 GPA, while on Academic Probation I. Or, if the student maintains a semester GPA greater than 2.0 while on Academic Probation II but the cumulative GPA is still less than 2.0.

1. The student cannot enroll in more than 7 hours of coursework during the semester.

2. As with rule 2 under Academic Warning and Academic Probation I and at the discretion of the associate dean or CAO, the student will be required to enter into a contract with their advisor, and approved by the associate dean or CAO, to place further stipulations on Academic Probation II.

The associate dean or CAO may place the student on Academic Suspension should the student not adhere to the stipulations of the contract.

The student must maintain a semester 2.0 GPA or higher until the cumulative GPA reaches a 2.0 or higher at which time they are placed on good academic standing. A student unable to maintain a semester GPA of 2.0 or higher, and the cumulative remains below 2.0 GPA, while under Probation II will be placed on Suspension.

Transfer students.

Students (admitted under special provisions) whose transcripts indicate less than a 2.0 GPA are admitted on Academic Probation I.

Continuing in probationary status.

Students may continue to enroll while on Academic Probation I or II provided they maintain a semester GPA of 2.0 or higher. They are continued on that same level of Academic Probation if they withdraw from the university while on Academic Probation.

Removal of Academic Probation.

Such academic standing is removed when the cumulative GPA is raised to 2.0 or higher, with the following exceptions: (1) a transfer student may not remove probation by summer work alone; (2) if an I grade is removed after the student has enrolled, the new grade’s effect on academic standing is based on its inclusion with grades for the term for which the student is enrolled; (3) exercise of the Adjusted Credit Option does not change academic status until subsequent grades are earned.

Academic Suspension.

When a student does not achieve a semester 2.0 GPA or higher, and the cumulative remains below a 2.0 while under Academic Probation II, they are placed on Academic Suspension. Students under Academic Suspension are not allowed to take NMSU courses while under suspension. Students on Academic Suspension must sit out a minimum of 1 semester and then petition the Provost or designee to be removed from Academic Suspension. At this time the suspension status will be evaluated for possible removal. Should the suspension be lifted, the student is placed on Academic Probation II until such time that the cumulative GPA equals or exceeds a 2.0. At the discretion of the Provost or designee, the student will enter into a contract approved by the Provost or designee and the student’s Dean or CAO setting stipulations to have the suspension removed. Failure to adhere to the contract will return the student to Academic Suspension.

Under certain conditions, a student may be re-admitted at NMSU under regular status while under Academic Suspension when satisfactory progress has been demonstrated at another college or university (see pg. 2, Undergraduate Catalog). Credits earned at another university or college while under Academic Suspension from NMSU or another university or college, will be accepted at NMSU only after the student demonstrates satisfactory progress over a period of two semesters after being re-admitted or admitted to NMSU. Acceptance of transfer credits that count toward degree requirements is still governed by the rules established by the student’s respective college or campus.

Effect of summer attendance

Students suspended at the close of the spring semester may have their Academic Suspension rescinded if they attend summer session at NMSU or one of its Community College colleges. Such attendance must raise the combined spring semester and summer GPA to 2.0 or better.

A certification of eligibility to attend summer session at NMSU after a spring semester Academic Suspension is available to the suspended student who wishes to attend summer sessions at other institutions.

Disciplinary Probation and Suspension

NMSU expects all students to regard themselves as responsible citizens on campus and in the community.

Repeated misconduct and major violations will cause the student to be subject to immediate suspension or expulsion from the university.

The general rules and regulations applicable to students are in the “Student Code of Conduct” of the Student Handbook or can be obtained from the Scheduling and Information Desk in Corbett Center.

Undergraduate Enrollment in Graduate Courses

Undergraduates who wish to enroll in a graduate-level course numbered 500 or higher for undergraduate credit must secure prior written permission from the instructor and course dean. Enrollment is by petition only and is limited to outstanding juniors and seniors.

Graduate Study by University Seniors

A student who is in the final semester of a bachelor’s degree program and who is completing all requirements for graduation may take up to 6 credits of graduate-level courses numbered from 450 through 598 for credit toward an advanced degree.

The student must also:

1. File an Application for Admission to the Graduate School and be admitted by a department into a graduate program
2. Have a grade point average of 3.0 or better over the most recent semesters in which the last 45 semester hours were completed
(3) File a petition for each course by the deadline to add courses for the semester in which the course was taken.
(4) Obtain approval by the instructor, department head, and undergraduate dean and
(5) Register for the course at the Graduate School.

The combined total of graduate and undergraduate courses for the semester may not exceed 17 credits. Students should consult an admission representative at the Graduate School.

If the student is not admitted into a graduate program, the course(s) will remain separate from the undergraduate record. If the student is admitted into a graduate program, the course(s) will become part of the graduate record and will not be used in the calculation of the student’s undergraduate grade-point average or credit hours.

Servicemember’s Opportunity College (SOC)

Servicemembers enrolled under the Two-Year Servicemember’s Opportunity College Program must be on regular degree seeking status and have completed 6 credit hours towards an associate degree program when the degree contract is written. Approved SOC associate degree programs are Associate Undesignated, Associate of Criminal Justice and Associate of Applied Science: Computer Technology.

SOC degree plans include a 15 credit hour residency requirement that may be waived by the dean of the College of Health and Social Services under special circumstances.

All rules and regulations will apply. Credits earned at non-SOC institutions cannot be used to meet contract course requirements.

Program/Degree Requirements

NMSU offers a number of degrees and certificates. Those awarded and requirements are given in the college sections. For graduation with a bachelor’s degree, a student must meet all of the criteria for the major elected. The requirements listed are the minimum for the degree; students are encouraged to undertake more extensive and broadening courses of study.

Student Responsibility

The ultimate responsibility for planning an academic program in compliance with university, college, and departmental requirements rests with the student. In addition, the student bears ultimate responsibility for understanding all matters of the Undergraduate Catalog.

ACADEMIC MAJORS AND MINORS

Academic Majors

A major is required for all baccalaureate degrees, except the Bachelor of Applied Studies and the Bachelor of Individualized Studies, and consists of at least 24 credits in the major field of which at least 18 credits must be upper-division courses.

Academic Minors

Students seeking a baccalaureate degree may elect to complete one or more minors from those available, and the minor will be designated on their transcripts. Minors will not be acknowledged after the degree has been conferred.

A minor consists of a minimum of 18 credits, at least 9 of which must be upper-division. The minor may be in a single department or may be interdepartmental. Specific requirements for these minors are available in printed form in departmental and deans’ offices. Specific available minors follow.

College Of Agricultural, Consumer And Environmental Sciences

Agricultural and Extension Education
Agricultural and Natural Resource Leadership
Agronomy
Conservation Ecology
Clothing, Textiles, and Fashion Merchandising
Culinary Science
Entomology
Environmental Sciences
Family and Child Science
Family and Consumer Science Education
Food Science
Horse Management
Horticulture
Hotel, Restaurant, and Tourism Management
Livestock Production

Nutrition
Pest Management
Plant Pathology
Range Science
Soil Science
Turf
Weed Science

College of Arts and Sciences

American Government and Politics
Aerospace Studies
Algorithm Theory
American Indian Studies
Anthropology
Art History
Astronomy
Biochemistry
Bioinformatics
Biology
Chemistry
City and Regional Planning
Communication Studies
Comparative Government
Comparative Politics
Computational Physics
Computer Systems
Conservation Ecology
Contemporary Social Studies
Creative Writing
Economics
English
Environmental Chemistry
Ethics
Forensic Science
French
General Physics
Geography
Geology
German
GIS (Geographic Information Systems)
Global Political Economy
Geophysics
Government
History
Human Biology
International Relations
Journalism and Mass Communications
Linguistics
Mathematics
Medieval and Early Modern Studies
Microbiology
Military Science
Museum Conservation
Music
Philosophy
Physics/Classical Mechanics
Physics/Electromagnetics
Physics/Materials
Physics/Optics
Physics/Quantum Mechanics
Political Theory
Psychology
Public Administration
Public Law
Religious Studies
Rhetoric and Professional Communication
Security Technology and Intelligence Studies
Sociology
Software Development
Spanish
Studio Art  
Theatre Arts  
United States/Border Studies  
Women’s Studies

**College of Business**  
Accounting  
Advertising  
Banking  
Economics  
Finance  
Global Political Economy  
Information Systems  
Risk Management and Insurance  
Intelligence Studies  
International Business  
Management  
Marketing  
Sports Marketing  
U.S.-Mexico Border Studies

**College of Education**  
Counseling and Educational Psychology  
Dance  
Exercise Science

**College of Engineering**  
Agricultural Engineering  
Computer Engineering  
Electrical Engineering  
Manufacturing  
Environmental Management  
Renewable Energy Technologies  
Security Technology and Intelligence Studies  
Surveying Engineering

**College of Extended Learning**  
Animation and Visual Effects  
Digital Film Making

**College of Health and Social Services**  
Community Health  
Environmental and Occupational Health  
Gerontology  
Health Administration  
U.S.-Mexico Border Health Issues

**GRADUATION REQUIREMENTS**

For the baccalaureate degree each student must complete a minimum of 128 credits including at least 48 credits numbered 300 or above. Program waivers require the approval of the Academic Deans’ Council.

Each college has its own requirements for graduation listed under its curricula. However, there are certain graduation requirements common to all undergraduate colleges:

- A student must have an average of two grade points per credit in all courses taken at NMSU.
- The student will be required to show proficiency in written English in all class work of the university. Any instructor may remand a student to the English remedial laboratory for further training in written English. In each case, the student must complete the remedial laboratory work prior to submitting the application to graduate.
- Each student must complete at NMSU at least 30 of the last 36 credits necessary for the baccalaureate degree. Of these 36 credits, 21 credits must be upper division and at least 12 of these upper division credits must be in the major. Colleges or Departments may require that more than 12 of the upper division credits be from the major, and they may direct that certain of these credits be course specific.
- Curricular requirements for a specific degree may be met by completing all of the course requirements for that degree as set forth in the catalog of matriculation provided that the selected catalog is not more than six years old when the requirements for graduation are met. This rule applies only to the course requirements and number of credits as specified for the degree. In all other cases, the current catalog is effective. The catalog is effective Summer Session I through Spring Semester. Upon completion of all requirements, multiple majors for a single degree (e.g., B.A.) will be noted on the academic record. Multiple bachelor's degrees (e.g., B.S.) may be granted if all requirements for the degrees have been completed. Multiple degrees may be granted at one commencement if all requirements have been met. Graduation fees must be paid for each degree.
- Both designated and undesignated associate degree residency requirements vary with the college awarding the degree. Requirements for the two-year associate degrees and for the certificates are found in the section(s) concerning these degrees.
  - Arts and Sciences, Business Administration, Education, and Health and Social Services require that the last 15 credits be completed at NMSU or one of its Community College campuses.
  - College Of Agricultural, Consumer And Environmental Sciences requires that the last 30 credits be completed at NMSU or one of its Community College campuses.

**Filing Notice of Degree Candidacy**

Degree candidates are required to file an Application for Degree and pay graduation fees for each degree sought. This fee ($10 for one-year certificates, $25 for associate or bachelor's, and $35 for graduate degrees) will be included in the total cost for the semester or session in which the candidate anticipates completing degree requirements. If degree requirements are not completed during the semester or session, the student must reapply and pay the appropriate fees. The Application for Degree form is available at the Office of the Registrar and the student’s advising center/Dean’s Office. It must be completed and submitted to the Office of the Registrar by the deadline for the semester/session. A $25 late fee applies to applications received after the first day of class, and no applications will be accepted after mid-term.

A student must specify choice of catalog as indicated under “Graduation Requirements.”

Latest date for substitution or waiver of required courses for candidates for degrees is two weeks after the last date of registration for regular or summer terms.

All fees and bills owed the university must be paid before a student may receive a diploma or transcript of credits.

**Graduation with Honors**

The requirements for four-year degrees with honors are listed in the “Recognition of Academic Achievement” section.

**Crimson Scholar Graduates**

The requirements for designation as a Crimson Scholar graduate are listed in the “Recognition of Academic Achievement” section.

**Attendance at Commencement**

The registrar certifies eligibility to participate in commencement exercises held at the close of the fall and spring semesters. Eligible candidates (registered for final degree requirements, as certified by the college deans) and degree recipients from the previous summer session participate in the fall ceremony. Students who complete degree requirements in the spring attend the spring ceremony. Students wishing to participate in a spring commencement ceremony prior to completing degree requirements in summer school must meet these conditions:

1) Receive permission from appropriate dean  
2) Show a minimum cumulative grade-point average of 2.0  
3) Lack 12 or fewer credit hours to complete degree requirements  
4) Remaining credit hours must be offered in the upcoming summer schedule of classes  
5) Submit degree application and approved petition form (available in the dean’s office) by last day to drop a course with a W.

Participation in commencement does not, in itself, mean that a student is considered an NMSU graduate. In order to receive a degree, a student must fulfill university requirements. The degree will reflect the graduation date when all requirements are met.

**Recognition of Degrees and Certificates**

Degrees and certificates earned are recorded on the academic record, as are majors where applicable. Minors are also recorded for students completing all requirements for the bachelor's or graduate degree as of May 10, 1980.

**Transcript of Credits**

A charge of $5 is made for any official transcript of credits. No transcript of credits will be released if the student is in debt to the university.

Official name changes on transcripts will be processed only if a student is currently enrolled and a written request is submitted.
COLLEGE of AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

Dean and Chief Administrative Officer • Lowell B. Catlett
Associate Dean and Director of Academic Programs • James D. Libbin
Associate Dean and Director of the Cooperative Extension Service • Jon C. Boren
Associate Dean and Director of the Agricultural Experiment Station • LeRoy A. Daugherty
Scholarship Coordinator • Will Waller
Assistant Director of Student Services • Kristy Mason
Assistant Program Coordinator • Bill Weathers

Bachelor of Science in Family and Consumer Sciences—Majors in Clothing, Textiles, and Fashion Merchandising; Family and Consumer Science Education; Family and Child Science; and Human Nutrition and Food Science
Bachelor of Science in Hotel, Restaurant and Tourism Management
Bachelor of Science in Environmental Science
Bachelor of Science in Genetics
Bachelor of Science in Conservation Ecology

Requirements for Bachelor of Science in Agriculture: Family and Consumer Sciences; Hotel, Restaurant and Tourism Management; Genetics; and Conservation Ecology
1. Constants or courses required of all qualifying for this degree.
2. General education requirements.
3. Courses to be taken in the particular field of your major interest.
4. Free electives sufficient to bring the total number of credits to a minimum of 128 semester credits. Of this total at least 48 semester credits must be in upper-division courses (numbered 300 or above).
5. A grade-point average of not less than 2.0.
6. All students will have an official degree check on file in the Academic Dean’s Office prior to start of senior year.

Requirements for Bachelor of Science in Environmental Science, Major Environmental Science
The requirements for the degree are the same as the above except for #4. Instead, the degree requires a minimum of 35 semester credits from courses with E S designation.

Typical Curricula in Agriculture
The following suggested curricula are presented for your guidance. With the consent of the head of the department in which you are majoring, you may select electives and changes in a curriculum except in the case of constants.

DEGREE: Bachelor of Science in Agriculture
MAJOR: General Agriculture
The curriculum in General Agriculture is administered by the Department of Entomology, Plant Pathology, and Weed Science for the Technical Agricultural Science option, and the Department of Agricultural and Extension Education for the Behavioral Agricultural Science option.

Technical Agricultural Science Option
Freshman year
ENGL 111G, Rhetoric and Composition ................................................................. 4
BIOL 111G, Principles of Biology, or BIOL 211G, Cellular and Organismal Biology ................................................................. 3
HORT 100G, Introductory Plant Science ................................................................. 4
Mathematics elective ................................................................. 3

Agriculture, lower division ................................................................. 12
Elective ......................................................................................... 6

Sophomore year
CHEM 111G, 112G, General Chemistry I, II ........................................................ 8
AXED 201, Effective Leadership and Communication in Agricultural Organizations, or COMM 253G, Public Speaking, or COMM 265G, Principles of Human Communication ................................................................. 3
ECON 201G, Introduction to Economics, or ECON 251G, Principles of Microeconomics ................................................................. 3
SOIL 252, Soils ......................................................................................... 3
SOIL 252L, Soils Laboratory .............................................................................. 1
Agriculture electives ......................................................................................... 7
Elective ......................................................................................... 4

General education requirement ......................................................................................... 3

Junior year
AGRO 305, Principles of Genetics ........................................................................ 3
ENGL 311G, Advanced Composition, or ENGL 318G, Advanced Technical and Professional Communication ................................................................. 3
EPWS 303, Economic Entomology ........................................................................ 4
E ST 311G, Statistical Applications ........................................................................ 3
Agriculture economics elective ......................................................................................... 3
Animal science, upper-division ......................................................................................... 3
Chemistry or physics ................................................................................................. 4
Part III, General Education Requirements ................................................................ 3
Plant science, upper-division ......................................................................................... 3
Elective ......................................................................................... 3

Senior year
ANSC 304, Feeds and Feeding .............................................................................. 3
EPWS 310, Plant Pathology ......................................................................................... 4
Agriculture economics electives ......................................................................................... 3
Animal science, upper-division ......................................................................................... 3
Part III, General Education requirements ................................................................ 3
Elective ......................................................................................... 13

Plant science, upper-division ......................................................................................... 3

Veterinary Medicine
(Preprofessional Training Only, Nondegree)
The Doctor of Veterinary Medicine (D.V.M.) degree is a professional degree that is not offered by any college or university in New Mexico; however, you may complete at New Mexico State University the preparatory program required for admittance to the professional colleges of veterinary medicine.

The D.V.M. degree normally requires four years of training in a professional college subsequent to completion of a preprofessional program that requires at least three years of college-level instruction. In most instances a baccalaureate degree is a distinct advantage to the applicant.
Curriculum requirements are determined by the particular school or college of veterinary medicine. The Department of Animal and Range Sciences maintains current requirements for Colorado State University, Washington State, Oregon State and Texas A&M. You should check with an advisor for specific course requirements. As a student from New Mexico, you may be eligible for financial assistance under the program of the Western Interstate Commission for Higher Education (WICHE). See the section on WICHE in the “General Information” chapter under “Student Services” for more information.

AGRICULTURAL ECONOMICS
and AGRICULTURAL BUSINESS

Professor Terry L. Crawford, department head
Professors: Catlett, Clary, Crawford, Diemer, Falk, Fowler, Gorman, Libbin, Skaggs, Torell, Ward; Associate Professor: Hurd; Assistant Professors: Acharya, Hawkes, Lillywhite, Patrick, Rupasingha; College Associate Professor: Bullock.
Adjunct Associate Professor: Dewitt; (575) 646-3215

DEGREE: Bachelor of Science in Agriculture
MAJOR: Agricultural Economics and Agricultural Business
AREAS OF CONCENTRATION:
- Farm Business Management
- Ranch Business Management
- Marketing and Sales
- Business Management
- Finance
- Computer Applications and Data Management
- Agricultural Communications
- Natural Resources Management
- Agricultural Chemical Sales
- Agricultural Records and Financial Controls
- International Agricultural Business
- International Development
- Environmental Economics
- Pre-Law
- Quantitative Skills/Theory (MS-Prep)

MAJOR: Natural Resource Economics and Policy
AREAS OF CONCENTRATION:
- Toxicology and Environment Management
- Water Resources
- GIS
- Wildlife Science

Specific courses meeting these and the university general education requirements are included for each major. A total of 128 credits are required for graduation. At least 48 credits must be at the 300+ level. You will develop schedules for specific semesters with the help of your academic advisor.

DEGREE: Bachelor of Science in Agriculture
MAJOR: Agricultural Economics and Business

GENERAL AND DEPARTMENTAL REQUIREMENTS
ENGL 111G, Rhetoric and Composition ......................................................... 4
ENGL 202G, 211G, 218G, 311G, or 318G ......................................................... 3
COMM 253G or 256G or AXED 201 or HON 265 ................................................. 3
MATH 142G, Calculus for the Biological and Management Sciences I. ............................... 3

Quantitative
AG E 250, Life with Microcomputers ............................................................... 3
AG E 450V, Advanced Microcomputer Applications in Agriculture ................. 3
MATH 120, Intermediate Algebra ................................................................. 3
MATH 121G, College Algebra ..................................................................... 3
E ST 311V, Statistical Applications ............................................................ 3

General education science with lab ............................................................. 8
Social/Behavior Sciences ......................................................................... 6-9
Humanities and Fine Arts ........................................................................ 6-9
Viewing a Wider World .......................................................................... 6

General Business
ACCT 251, Management Accounting ....................................................... 3
ACCT 252, Financial Accounting .............................................................. 3
MGT 300+ course ..................................................................................... 3
MGT 305, Marketing and Pricing Agricultural Products ......................... 3
ECON 371, Intermediate Microeconomic Theory ...................................... 3
ECON 372, Intermediate Macroeconomic Theory .................................... 3

Applied Economics/Business
AG E 100, Introductory Agricultural Economics and Business ............... 3
AG E 111, Freshman Orientation ............................................................... 3
AG E 236, Agribusiness Management Principles ..................................... 3
AG E 305/MGT 305, Marketing and Pricing Agricultural Products .......... 3
ECON 371, Intermediate Macroeconomic Theory .................................... 3
ECON 384V/AG E 384V, Water Resource Economics ............................ 3
AG E 400, Seminar ............................................................................... 1
AG E 425, Agribusiness Financial Management ...................................... 3
AG E 449V, Agricultural Policy ............................................................... 3
AG E 385, Applied Production Economics .............................................. 3
AG E 499, Senior Project or AG E 456, Agribusiness Management ........... 3

In addition to the department and general requirements listed above, you may also select from one of the fifteen available areas of concentration. The specific class requirements for each option are on file in the department and are available either through general advising and/or by request.

MAJOR: Natural Resource Economics and Policy

GENERAL AND DEPARTMENTAL REQUIREMENTS
ENGL 111G, Rhetoric and Composition ......................................................... 4
ENGL 202G, 211G, 218G, 311G, or 318G ......................................................... 3
COMM 253G or 256G or AXED 201 ............................................................ 3
MATH 142G, Calculus for the Biological and Management Sciences I. ....... 3

General education science with lab ............................................................. 8
Social/Behavior Sciences ......................................................................... 6-9
Humanities and Fine Arts ........................................................................ 6-9
Viewing a Wider World .......................................................................... 6

Applied Economics/Career
AG E 111, Freshman Orientation ............................................................... 1
ECON 251G, Principles of Macroeconomics ............................................ 3
ECON 252G, Principles of Microeconomics .............................................. 3
ECON 371, Intermediate Microeconomic Theory .................................... 3
ECON 372, Intermediate Macroeconomic Theory .................................... 3
AG E 385, Applied Production Economics .............................................. 3
ECON 384V/AG E 384V, Water Resource Economics ............................ 3
AG E 400, Senior Seminar ................................................................. 1
AG E 475, Water Resource Management & Policy .................................. 3
ECON 434, Public Expenditures ................................................................. 3
AGRICULTURAL and EXTENSION EDUCATION

Cynda R. Clary, interim department head

Professors: Dormody, Gonzalez, Hamilton, Severs, VanLeeuwen; Associate Professors: Bagwell, Hodnett, Rosencrans; Assistant Professors: Chamberlin, Skelton

(575) 646-4511

DEGREE: Bachelor of Science in Agriculture

MAJOR: Agricultural and Extension Education

OPTIONS: Agricultural Education Teaching
Agricultural Communications
Advanced Technology Education

MINOR: Agricultural and Extension Education

MAJOR: Agriculture and Community Development

MINOR: Agricultural and Natural Resource Leadership

The department offers a broad-based curriculum with majors, options, and minors that prepare students for many careers as professional educators, communicators and leaders in agricultural, natural resource, technology and related disciplines. Example occupations the department prepares its students to enter are agriculture teacher, media specialist, technology teacher, county Extension agent, NMDA or USDA professional, industry educational specialist, and agricultural development specialist. Graduates work in domestic and/or international settings.

The department offers minors in agricultural and extension education and agricultural and natural resource leadership.

GENERAL REQUIREMENTS

You must meet the general education and departmental requirements for the degree and the major, option, or minor chosen. You must establish a cumulative grade-point average of not less than 2.5 before you are admitted into the student teaching or other internship program. If you wish to teach in a public school, you must have a minimum of 48 hours in technical agriculture for the secondary teaching certificate program. You need a minimum of 20 hours in technical agriculture for the secondary teaching certificate program in agriculture.

You may select technical courses required for completion of the majors and options from the following areas: agricultural economics; agricultural mechanics; animal and range sciences; entomology, plant pathology and weed science; fishery and wildlife sciences; engineering; and plant and environmental sciences. Selected courses for the majors are:

MAJOR: Agricultural and Extension Education

OPTION: Agricultural Education Teaching (28-33 credits from the following required courses)

AXED 100, Introduction to Agricultural, Extension, and Technology Education ....................................................3

AXED 201, Effective Leadership and Communication in Agricultural Organizations ................................................3

AXED 230, Early Field-Based Experience ..................................................................................................................1

AXED 445, Developing Excellent Programs in Career and Technical Education ..........................................................3

AXED 446, Methods of Teaching Agricultural and Technology Education .................................................................3

AXED 447, Directed Teaching in Agricultural and Technology Education .................................................................12

AXED 460, Methods in Career and Technical Laboratory Instruction ...............................................................2

EDUC 381, Field Experience III .............................................................................................................................2

RDG 414, Content Area Literacy ..............................................................................................................................3

SPED 350, Survey of Programs for Exceptional Learners ............................................................................................3

Agricultural Economics (at least 12 credits)

Agricultural Mechanic (at least 12 credits)

Plant, Pest and Soil Sciences (at least 12 credits)

Animal Science, Horticulture, or Natural Resources (at least 12 credits from one of these areas)

OPTION: Agricultural Communications

AXED 100, Introduction to Agricultural, Extension, and Technology Education ....................................................3

AXED 201, Effective Leadership and Communication in Agricultural Organizations ................................................3

AXED 360, Agricultural Communications ..................................................................................................................3

AXED 444, Planning and Methods in Nonformal Education .........................................................................................3

AXED 448, Internship in Agricultural Communications ............................................................................................4-12

AXED 490, Independent Study in Agricultural Communications ..............................................................................3

JOUR 105, Introduction to Mass Communications ..................................................................................................3

JOUR 110, Writing for the Mass Media ......................................................................................................................3

JOUR 210, Writing for the Print Media .......................................................................................................................3

JOUR 313, Radio Reporting or, JOUR 319, Photojournalism I or, JOUR 374, Principles of Public Relations ....3

or JOUR 300 or above .................................................................................................................................................9

OPTION: Advanced Technology Education

AXED 100, Introduction to Agricultural, Extension, and Technology Education ....................................................3

AXED 201, Effective Leadership and Communication in Agricultural Organizations ................................................3

AXED 230, Early Field-Based Experience ..................................................................................................................1

AXED 445, Planning and Methods in Career and Technical Education ..................................................................3

AXED 446, Methods of Teaching Agricultural and Technology Education .................................................................3

AXED 447, Directed Teaching in Agricultural or Technology Education ................................................................12

AXED 460, Methods in Career and Technical Laboratory Instruction ........................................................................2

EDUC 381, Field Experience III .....................................................................................................................................2

ET 317, Manufacturing Technology ..........................................................................................................................3

ET 320, Applications Software for Engineering Technologists .....................................................................................3

ET 340/341, AC and DC Circuits and Lab ....................................................................................................................5

ET 342, Digital Electronics I ...........................................................................................................................................3

ET 365, Building Utilities ............................................................................................................................................3

ET 473, Developing and Managing Educational Networks .........................................................................................3

ET 480, Design and Problem Solving in Engineering and Technology .......................................................................3

RDG 414, Content Area Literacy ..................................................................................................................................3

SPED 350, Survey of Programs for Exceptional Learners ............................................................................................3

MINOR: Agricultural and Extension Education

The department offers a minor in agricultural and extension education, which may be earned by completion of 18 credits in the department. The minor must include 9 credits of upper-division courses with a minimum of two courses at the 400 level.

MAJOR: Agriculture and Community Development

AXED 100, Introduction to Agricultural, Extension, and Technology Education ....................................................3

AXED 201, Effective Leadership and Communication in Agricultural Organizations ................................................3

AXED 360, Agricultural Communications or
AXED 444, Planning and Methods in Nonformal Education ........................................3
AXED 349, Advanced Technology in the Agricultural Industry ..................................3
AXED 480, The Diffusion and Adoption of Agricultural Innovations or ..................................3
AXED 436, Keys for Agricultural and Rural Development .............................................3
AXED 415, Youth Program Development and Management ........................................3
AXED 430, Teaching Adults in Nonformal Settings .....................................................3
AXED 475, Leadership on Agricultural and Natural Resource Issues .........................3
Agricultural Economics (at least 12 credits)

Plant and Pest Sciences (at least 13 credits)
Animal Science (at least 9 credits)
Natural Resources (at least 9 credits)
Internship/Emphasis Area (at least 12 credits)

MINOR: Agricultural and Natural Resource Leadership

The department offers a minor in agricultural and natural resource leadership, which may be earned by completing 12 credits of leadership related courses in the department, a three-credit agricultural or natural resource policy course, and a three-credit leadership related course from outside of the Department of Agricultural and Extension Education. The minor must include 9 credits of upper division courses.

Accreditation

The two teacher education options (Agricultural Education Teaching and Advanced Technology Education) in the Department of Agricultural and Extension Education are accredited by the National Council for the Accreditation of Teacher Education. It is critical that students consult their academic advisor prior to selection of courses for the agriculture, secondary science and teaching endorsements.

ANIMAL and RANGE SCIENCES

Professor Tim T. Ross, interim department head

Professors: Alfred, Hallford, Holechek, McDaniel, Ross, J. Thomas, M.
Thomas, Wise; Associate Professors: Abbott, Bailey, Burcham; Fernald, Liest, Assistant Professors: Cibils, Elam, Soto, Ivey, Instructor Priest
Co-operators (USDA) Anderson, Barrow, Estell, Fredrickson, Havstad, Herrick, Mathis, Peters, Turner(CES)
(575) 646-2514; ascience@nmsu.edu

DEGREE: Bachelor of Science in Agriculture

MAJOR: Animal Science

OPTIONS: Animal Industry Science

MAJOR: Rangeland Resources

MINORS: Range Science
Livestock Production
Horse Management

The Department of Animal and Range Sciences provides opportunities for you to follow a variety of interests in modern scientific agriculture. The animal science curriculum provides a background for many phases of the food animal industry, from farm animal production on rangelands to management positions in the food processing industry to highly technical careers in research. The range science curriculum provides you with knowledge necessary to deal with all aspects of the multiple uses of rangelands. These curricula allow you to acquire the background necessary to adjust easily to variations in specific job opportunities. If you are majoring in either animal science or range science, you must meet general education requirements, have a minimum of 48 credits of upper-division courses (numbered 300 and above), and complete a minimum of 35 credits in courses with Agriculture and Home Economics prefixes.

DEGREE: Bachelor of Science in Agriculture

MAJOR: Animal Science

The animal industry option includes courses that prepare you for work in many phases of the livestock industry, such as livestock production on farms and ranches, the meat industry, the feed industry, livestock breed associations, and livestock publications. The science option provides you with a strong back-ground in technical science and prepares you for advanced studies leading to graduate or professional degrees.

Animal Science Core of Requirements (Required of Industry and Science options)

ANSC 100, Introductory Animal Science .................................................................3
ANSC 220, ANSC Career Development .....................................................................1
ANSC 303, Livestock, Meat, and Wool Evaluation, or both ANSC 265 and ANSC 355, Horse Judging ..........................................................4
ANSC 304, Feeds and Feeding .................................................................................3
ANSC 370, Anatomy and Physiology of Farm Animals ............................................4
ANSC 402, Animal Science Seminar ......................................................................1
ANSC 421, Physiology of Reproduction ...................................................................3
ANSC 422, Animal Nutrition ...................................................................................3
ANSC 432, Animal Breeding ...................................................................................3
BIOL 111G/111L, Natural History of Life or BIOL 211G/211L, Cell and Organismal Biology ...........................................................4
CHEM 111G, General Chemistry ............................................................................4
COMM 265G, Principles of Human Communication, or AXED 201, Effective Leadership and Communication in Agricultural Organizations ..............3
ECON 201G, Introduction to Economics; or ECON 251, Principles of Macroeconomics; or ECON 252 Principles of Microeconomics .............3
E ST 311G, Statistical Applications ........................................................................4
MATH 121G, College Algebra, or MATH 191G, Calculus and Analytic Geometry I .........................................................................................9
RGSC 294, Rangeland Resource Management ......................................................3
OPTION: Animal Industry
ANSC 200, Introduction to Meat Animal Production ..............................................3
ANSC 201, Introduction to Genetics for Animal Production; or ANSC 305, Principles of Genetics .................................................................3
ANSC 261, Introduction to Animal Metabolism ......................................................3
ANSC 325, Mastering Financial Agricultural Statements ........................................6
Meat science electives (two courses): ANSC 262, ANSC 301, ANSC 306, or ANSC 363 ..........................................................6
Production electives (three courses): any three production courses offered in the department ........................................................................9
Plant science electives (one course): RGSC 307, RGSC 318, RGSC 325, RGSC 440, SOIL 252 .................................................................3-4
Business electives (one course): ACCT 251, AG E 305, AGE 440, FIN 303V, MGT 319V, MGT 312 .................................................................3

OPTION: Science
ANSC 305, Principles of Genetics .................................................................3
BCHE 341, Biological Chemistry ........................................................................4
CHEM 112G, General Chemistry II .................................................................4
CHEM 211, Organic Chemistry, or CHEM 313, Organic Chemistry I, and CHEM 314, 315, Organic Chemistry II and Laboratory .........................4
Meat science electives (one course): ANSC 262, ANSC 301, ANSC 306, ANSC 363 .........................................................................3
Production electives (two courses): ANSC 314, ANSC 414, ANSC 415, ANSC 416, ANSC 417 .................................................................6
Designated electives (one course): MATH 191G, MATH 192G, PHYS 211G and 211GL, PHYS 212G and 212GL .........................................3-4
Designated electives (one course): ANSC 462, ANSC 480, ANSC 484, TOX 461 or TOX 361 .................................................................3

Credits sufficient to bring total to 128.

MAJOR: Rangeland Resources

The following course work prepares you for study and management of rangelands through an integrated ecological approach with special emphasis on rangeland plants, livestock, wildlife, soils, and watersheds. The course work is also well designed for those who want to continue study in graduate school. Any undergraduate student majoring in Range Science must earn a grade of C or higher in Range Science (RGSC prefix) courses to satisfy degree requirements. Students earning a D or F in a Range Science (RGSC prefix) course will be expected to repeat that course until the student earns a grade of C or higher. The following courses are required for a major in rangeland resources.

MINORS: Range Science
Horse Management

The minor must include 9 credits of upper division courses.

The following courses are required for a minor in range science:

ANSC 261, Introduction to Animal Metabolism ......................................................3
ANSC 325, Mastering Financial Agricultural Statements ........................................6
Meat science electives (one course): ANSC 262, ANSC 301, ANSC 306, ANSC 363 .........................................................................3
Production electives (two courses): ANSC 314, ANSC 414, ANSC 415, ANSC 416, ANSC 417 .................................................................6
Designated electives (one course): MATH 191G, MATH 192G, PHYS 211G and 211GL, PHYS 212G and 212GL .........................................3-4
Designated electives (one course): ANSC 462, ANSC 480, ANSC 484, TOX 461 or TOX 361 .................................................................3

Credits sufficient to bring total to 128.
Range Science Core Requirements

AG E 290, Life with Microcomputers ................................................................. 3
ANSC 261, Principles of Animal Metabolism, or BIOL 211G, Organic Chemistry ................................................................. 3 or 4
BIOL 111, Natural History or BIOL 211G, Cell and Organismal Biology .......... 3
BIOL 301, Ecology ............................................................................................. 3
CHEM 111G, General Chemistry I .................................................................... 4
CHEM 112G, General Chemistry II .................................................................. 4
COMM 285G, Principles of Human Communication, or AXED 201, Effective Leadership and Communication in Agricultural Organizations ...... 3
ECON 201G, Introduction to Economics; 251G, Principles of Macroeconomics; or 252G, Principles of Microeconomics ................................................ 3
EPWS 314, Plant Physiology ................................................................................ 3
ENGL 311G, Statistical Applications ................................................................ 3
RGSC 150, Introduction to Range Science Major .............................................. 1
RGSC 294, Rangeland Resource Management .................................................. 3
RGSC 302V, Forestry and Society ...................................................................... 3
RGSC 307, Rangeland Grasses .......................................................................... 3
RGSC 316, Rangeland Plants .............................................................................. 2
RGSC 317, Rangeland Communities .................................................................. 3
RGSC 318, Watershed Management .................................................................. 3
RGSC 325, Rangeland Restoration Ecology ...................................................... 3
RGSC 402, Seminar ......................................................................................... 1
RGSC 440, Rangeland Resource Ecology .......................................................... 4
RGSC 452, Rangeland Analysis ......................................................................... 4
RGSC 460, Advanced Rangeland Management ................................................ 4
SOIL 252, Soils .................................................................................................. 3
SOIL 252L, Soils Laboratory ............................................................................. 1
SOIL 472, Soil Morphology and Classification .................................................. 4
WLC 255, Principles of Natural Resource Management ..................................... 3
ANSC Elective above 300 .................................................................................. 3

MINOR: Horse Management

A minor in Horse Management consists of at least 20 credits.
ANSC 103, Introductory Horse Science .............................................................. 3
ANSC 265, Horse Evaluation ............................................................................ 2
ANSC 288, Horse Fitting and Selling ................................................................. 3
ANSC 289, Management of Equine Operations or ANSC 390, Internship ....... 3
ANSC 304, Feeds and Feeding ......................................................................... 3
ANSC 320, Applied Horsemanship or ANSC 321, Applied Horsemanship II ... 3
ANSC 383, Equine Reproductive Management or ANSC 415, Horse Production ................................................................. 3

MINOR: Livestock Production

A minor in Livestock Production consists of at least 19 credits.
ANSC 100, Introductory Animal Science or ANSC 200, Introductions to Meat Animal Production .......................................................... 3
ANSC 282, Introduction to Meat Science ........................................................... 3
ANSC 303, Livestock, Meat, and Wool Evaluation ........................................... 4
ANSC 304, Feeds and Feeding ......................................................................... 4
Students must complete at least 2 courses from the following list: ANSC 314, Swine Production; ANSC 414, Sheep and Wool Production; ANSC 415, Horse Production; ANSC 416, Beef Production; ANSC 417, Dairy Production ................................................................. 6

MINOR: Range Science

A minor in Range Science consists of at least 18 credits in courses with a RGSC prefix.

ENTOMOLOGY, PLANT PATHOLOGY, and WEED SCIENCE

Professor David Thompson, department chair

Professors Byford, Ellington, Kemp, Schroeder, Sterling, Thomas, Thompson; Associate Professors Bundy, Creamer, Pierce, Sander son, Sanogo; Assistant Professors Hanson; Adjunct Professors Banks, Berksen, Bleviss, Miller; College Professor Arnold; College Associate Professor Richman; College Assistant Professor Lewis;

(575) 646-3225

DEGREE: Bachelor of Science in Agriculture

MAJOR: Agricultural Biology

OPTIONS: Applied Biology
Entomology
Environmental Biology
Invasive Pest Biology and Management

MINORS: Pest Management
Entomology
Plant Pathology
Weed Science

College requirements are 35 credits in the College of Agricultural, Consumer and Environmental Sciences. Specific courses that meet these and the university general education requirements and additional courses in biology, chemistry, mathematics, and seminar are included below in departmental requirements. A total of 128 credits are required for graduation. At least 54 credits must be 300-level courses and above. Schedules in specific semesters will be developed with the help of a student’s academic advisor.

DEGREE: Bachelor of Science in Agriculture

MAJOR: Agricultural Biology

The agricultural biology course work prepares you for a variety of careers in the biological sciences and agriculture. You will develop your curriculum with an academic advisor to attain your individual goals. Many will pursue advanced degrees in the sciences or prepare for admittance to professional schools (medical, dental, etc.). A diverse program is offered with four separate options that allow you to tailor your program for careers in the commercial sector, such as agricultural consulting, and pest management or for careers with county, state, or federal agencies, such as research technicians, land managers, and extension agents.

Departmental Requirements

Courses marked with an asterisk (*) are required to fulfill general education requirements.
ANSC/BIOL 305, Genetics .................................................................................. 3
BIOL 111G, Natural History of Life, and BIOL 211G, Cellular and Organismal Biology ................................................................. 6
BIOL 311G, General Microbiology .................................................................. 3
BIOL 313, Structure and Function of Plants, or BIOL 322, Zoology ............... 3
CHEM 111G, 112G, General Chemistry I, II .................................................... 8
COMM 285G, Principles of Human Communication, or COMM 253G, Public Speaking, or AXED 201, Effective Leadership and Communication in Agricultural Organizations* ............................................ 3
ENGL 111G, Freshman Composition* ............................................................... 4
ENGL 211, Writing in the Humanities and Social Sciences, or ENGL 311G, Advanced Composition, or ENGL 218, Technical and Scientific Communication, ENGL 318G, Advanced Technical and Professional Communication* ............................................................................ 3
EPWS 100, Introduction to Pest Management .................................................. 3
EPWS 100L, Pest Management Laboratory ..................................................... 1
EPWS 301, Agricultural Biotechnology ............................................................ 3
EPWS 303, Economic Entomology .................................................................. 4
EPWS 310, Plant Pathology .............................................................................. 4
EPWS 311, Weed Science ................................................................................ 4
### Option: Environmental Biology

MATH 121G, College Algebra .......................... 3

**General education electives from the following categories:**

- Humanities and Fine Arts .......................... 6-9
- Social and Behavioral Sciences ................. 6-9

**Total** .................................................. 15

#### Viewing a Wider World (6 cr. 300 or 400 Level):

Two general education courses from two separate Colleges outside the College of Agricultural, Consumer and Environmental Sciences ........................................ 6

### Agricultural Biology Options

In addition to the departmental requirements listed above, you must also complete all of the courses in at least one of the options listed below. Courses with higher numbered prefixes may replace courses listed as departmental requirements in some cases.

#### OPTION: Applied Biology/Preprofessional

The Applied Biology option prepares you for professional advancement including admittance to medical, dental, veterinary, and graduate schools. Students interested in the health professions must register with the Health Professions Advisory Committee no later than the sophomore year. Students should check the specific entrance requirements for the professional or graduate school of their choice prior to selecting electives within this option.

**Requirements in some cases.**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCHE 341, Survey of Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 313, 314, 315, Organic Chemistry I, II, and Lab</td>
<td>8</td>
</tr>
<tr>
<td>MATH 190G, Trigonometry and Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 191G/191GL, Calculus and Analytical Geometry I and Practicum</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 211G, 211GL, General Physics I, General Physics I Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

**Choose two of the following courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSC 370, Anatomy and Physiology of Farm Animals; BIOL 312, Plant Taxonomy; BIOL 330, Comparative Anatomy and Embryology; BIOL 354, Physiology of Humans; BIOL 377, Cell Biology; EPWS 314, Plant Physiology; EPWS 373, Fungal Biology; EPWS 434, Insect Taxonomy; EPWS 481, Plant Virology</td>
<td>6-8</td>
</tr>
</tbody>
</table>

**Suggested Electives:**

- MATH 192G, Calculus II, PHYS 212, General Physics II

#### OPTION: Environmental Biology

The Environmental Biology option prepares you for professional positions in environmental impact, regulation, compliance, and improvement.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGHE 380V, Ecosystem Earth</td>
<td>3</td>
</tr>
<tr>
<td>CH E 330, CH E 430, Environmental Seminars I, II</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 211, Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 314, Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 451, Special Topics, Environmental Biology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 472, Mycology</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 486, Plant Virology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 492, Diagnosing Plant Disorders</td>
<td>3</td>
</tr>
<tr>
<td>MATH 142G, Calculus for Biological and Management Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 211G, 211GL, General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>SOIL 252, Soils</td>
<td>3</td>
</tr>
<tr>
<td>TOX 361, Basic Toxicology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select at least two of the following:**

- AGRO 471, Plant Mineral Nutrition
- AGRO 471, Plant Mineral Nutrition
- BCHE 341, Survey of Biochemistry
- EPWS 420, Pesticides in the Environment
- E S 370, Environmental Soil Science
- E ST 456, Statistical Methods and Data Analysis
- GEOG 381, Cartography and Geographic Information System
- SOIL 257, Meteorology
- SOIL 312, Soil Management and Fertility
- TOX 423, Environmental Toxicology

### OPTION: Entomology

The Entomology option prepares you for graduate degrees in entomology. Emphasis is placed on a broad background in field and laboratory aspects of insect biology and management.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRO 471, Plant Mineral Nutrition, or AGRO 365, Crop Production</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 313, 314, 315, Organic Chemistry I, II, and Lab</td>
<td>8</td>
</tr>
<tr>
<td>BCHE 341, Survey of Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 314, Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 434, Insect Taxonomy, or EPWS 451, Special Topics or Immature Insects</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 455, Advanced Insect Pest Management, or EPWS 456, Biological Control</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 462, Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 481, Nematology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 491, Insect Physiology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 492, Diagnosing Plant Disorders</td>
<td>3</td>
</tr>
<tr>
<td>MATH 142G, Calculus for Biological and Management Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 110G, Introduction to Physics or above</td>
<td>4</td>
</tr>
<tr>
<td>SOIL 252, Soils</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select at least one of the following:**

- EPWS 307, Rangeland Grasses
- RGSC 307, Rangeland Plants
- BIOL 312, Plant Taxonomy
- EPWS 434, Insect Taxonomy

### OPTION: Invasive Pest Biology and Management

This option prepares you for careers such as insect, weed, and disease management, research technician, federal and state agencies, border security, agricultural consulting, and extension positions.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 211, Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 314, Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 455, Advanced Insect Pest Management, or EPWS 456, Biological Control</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 481, Plant Nematology, or EPWS 462, Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 492, Diagnosing Plant Disorders</td>
<td>3</td>
</tr>
<tr>
<td>MATH 142G, Calculus for Biological and Management Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 110G, Introduction to Physics or above</td>
<td>4</td>
</tr>
<tr>
<td>SOIL 252, Soils</td>
<td>3</td>
</tr>
<tr>
<td>SOIL 312, Soil Management and Fertility</td>
<td>3</td>
</tr>
<tr>
<td>TOX 361, Basic Toxicology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select at least one of the following:**

- AGRO 365, Principles of Crop Production
- AGRO 471, Plant Mineral Nutrition
- BIOL 301, Principles of Ecology
- EPWS 420, Environmental Fate of Pesticides
- RGSC 317, Rangeland Communities

### MINORS

Courses marked with † are required for the minor.

#### MINOR: Pest Management (18 credits)

- EPWS 100, Introduction to Pest Management ........................................ 3
- EPWS 100L, Introduction to Pest Management Lab .................................. 1
- EPWS 303, Economic Entomology .............................................................. 4
- EPWS 310, Plant Pathology ....................................................................... 4
- EPWS 311, Weed Science ......................................................................... 4
- EPWS 434, Insect Taxonomy ..................................................................... 3
- Upper-division EPWS course(s) ................................................................. 3-6

#### MINOR: Entomology (18 credits)

- EPWS 100, Introduction to Pest Management ........................................ 3
- EPWS 100L, Introduction to Pest Management Lab .................................. 1
- EPWS 303, Economic Entomology .............................................................. 4
- EPWS 434, Insect Taxonomy ..................................................................... 3
- EPWS 451, Special Topics ....................................................................... 3-9
- EPWS 455, Advanced Integrated Pest Management .................................. 3

**END**
MAJOR: Family and Child Science

This major stresses the interrelationship of individuals throughout the life span and the impact of social and economic factors on the family system. Graduates are prepared for professional work with social and community agencies and other activities serving families and consumers. You must work closely with an advisor. You **must achieve a grade of C or higher in your required core and option courses**, and must retake required courses with a grade lower than C. You must have a GPA of 2.5 or higher before enrolling in FCS 424, Field Experience; FCSC 400, Research Methods in Family and Consumer Sciences; and FCSE 348, Teaching in Informal Family and Consumer Sciences Settings.

General Education Requirements

A list of specific general education requirements is available in the department. Please check with your advisor.

Core Classes

- FCS 181, Interpersonal Skills in Intimate Relationships .................................................. 3
- FCS 380, Family Dynamics ................................................................................................. 3
- FCS 381, Middle Childhood Development in the Family .................................................. 3
- FCS 383, Parenting and Child Guidance .......................................................................... 3
- FCS 424, Field Experience .............................................................................................. 8
- FCS 446, Adolescent Development and the Family ............................................................ 3
- FCS 447, Infancy and Early Childhood in the Family .......................................................... 3
- FCS 448, The Aging Family .............................................................................................. 3
- FCS 449, Family Ethnicities and Subcultures .................................................................. 3
- FCSC 400, Research Methods in Family and Consumer Sciences ...................................... 3
- FRMG 330, Personal and Family Finance ......................................................................... 3
- FRMG 333, Consumer Practices and Problems .................................................................. 3
- HNFS 163, Nutrition for Health ....................................................................................... 3
- HNFS 263GG, Food Science I ............................................................................................ 4
- HNFS food science 300+ elective (see advisor for selections) ........................................... 3
- HNFS nutrition 300+ elective (see advisor for selections) .............................................. 3

Option Courses (Select 4 courses; 12 credits)

With the approval of an FCS advisor, select 12 hours of 300 or 400 level courses from prefixes such as C EP, ECD, FCS, GERIO, HL S, PSY, SOC, SWK and W S that are relevant to families and children.

Electives

Choose electives with approval of an FCS advisor sufficient to bring total to at least 128 credits with at least 48 credits labeled 300 or higher.

Students are encouraged to complete a minor in a related area such as criminal justice, health sciences, sociology, and psychology. Consult with an advisor for requirements. (See departmental minors at the end of this section.)

MAJOR: Family and Consumer Sciences Education

This major prepares you for secondary school teaching as well as teaching in other educational settings such as the Cooperative Extension Service. Two options are available. The Teaching Option meets licensure requirements for New Mexico. The Extension Option prepares you to teach in the Cooperative Extension Service or other community agencies. In the spring semester of the senior year, principles of teaching are applied during student teaching in a selected school or a County Extension office. Requirements for admission to the student teaching component of the Family and Consumer Sciences Education program are (1) an overall grade-point average of not less than 2.5 and a grade-point average of 2.5 or above in family and consumer sciences courses, (2) a C or better in all departmental courses and (3) recommendation of advisor. You must have a GPA of 2.5 or higher before enrolling in FCSE 348, Teaching in Informal Family and Consumer Sciences Settings; FCSE 408, Field Experience in Extension; FCSE 446, Teaching Methods I for Family and Consumer Sciences; and FCSE 448, Supervised Teaching in Family and Consumer Sciences.

General Education Requirements

A list of specific general education requirements is available in the department. Please check with your advisor.

Departmental Requirements

- CTFM 178, Fundamentals of Fashion, or CTFM 255, Principles of Clothing Selection ................................................................................................................................. 3
- CTFM 273, Concepts in Apparel Construction .................................................................. 3
- CTFM 371, Textile Science ............................................................................................... 3
- FCS 181, Interpersonal Skills in Intimate Relationships .................................................. 3
- FCS 380, Family Dynamics ............................................................................................... 3
- FCS 383, Parenting and Child Guidance ........................................................................ 3
- FCS 447, Infancy and Early Childhood in the Family ....................................................... 3
- FCSE 245, Overview of Family and Consumer Sciences Teaching .................................. 3
- FCSE 345, Management Concepts in Family and Consumer Sciences Teaching ............ 3
- FCSE 445, Vocational Programs for Youth and Adults .................................................... 3
- FCSE 446, Teaching Methods I for Family and Consumer Sciences; ........................... 3
- FCSE 447, Teaching Methods II for Family and Consumer Sciences; ............................ 3
- FRMG 330, Personal and Family Finance ....................................................................... 3
- FRMG 331, Management of Family Life and Resources ................................................. 3
- FRMG 333, Consumer Practices and Problems ............................................................... 3
- FRMG 335, Housing and Interior Design ........................................................................ 3
- HNFS 163, Nutrition for Health, or HNFS 251, Human Nutrition .................................. 3
- HNFS 263GG, Food Science I ............................................................................................ 4
- HNFS food science 300+ elective (see advisor for selections) ........................................ 3
- HNFS nutrition 300+ elective (see advisor for selections) ............................................ 3

Nondepartmental Requirements

- AG E 250, Life with Microcomputers, or CS 110, Computer Literacy .......................... 3
- HRTM 201, The Tourism System and Travel Services, or HRTM 221, Introduction to Hospitality Management ................................................................. 3
- SPED 350, Survey of Programs for Exceptional Learners ............................................. 3

Specific Teaching Option Requirements

- FCSE 448, Supervised Teaching in Family and Consumer Sciences .............................. 9
- RDG 414, Content Area Literacy ................................................................................... 3

One elective from HIST, ECON, SOC and GOVT (May meet Viewing a Wider World requirements) ......................................................................................... 3

Specific Extension Option Requirements

- FCSE 408, Field Experience in Extension ........................................................................ 9

Electives (AXED recommended) .................................................................................. 10

Upper-division hours must total 48. A second teaching field can also be arranged.

MAJOR: Human Nutrition and Food Science

OPTION: Dietetics

This option is the first step in a three step process to be a dietitian in a variety of practice settings. Upon completion of the didactic program, a Verification Statement, which is necessary to complete a supervised practice program, is issued. To help ensure that you will be successful in our program, a supervised practice program and on the Commission on Dietetic Registration (CDR) National Exam, students must do the following to get a Verification Statement:

1. Complete all classes outlined below on the Dietetics option program of study;
2. **Attain a C or higher (on campus or transfer)** in classes with CHEM, BCHE, BIOL, SP M and HNFS prefixes;
3. **Take a challenge exam, scoring a C or higher**, related to HNFS 446, 448 and 449 if you desire to transfer in courses that are comparable;
4. Take at least 30 credits at New Mexico State University with 20 upper division (300 level or above) and 10 in HNFS (300 level or higher);
5. Must have a GPA of 2.5 or better and have a junior standing before enrolling in FCSC 400, Research Methods in Family and Consumer Sciences; FCSE 348 Teachings in Informal Family and Consumer Sciences Settings; or HNFS 401/407, Field Experience; and
6. Complete, with a 75% or higher on each, a series of domain specific (Food and Nutrition; Clinical and Community Nutrition; Education and Research; Food and Nutrition Systems; Management) Exit Exams.

**Note:** Exit Exams can be taken more than once. To further help ensure that you will be successful in our program, a supervised practice program and when taking the Commission on Dietetic Registration (CDR) National Exam, all students will be asked to sign an English Proficiency Awareness form.
Following graduation, a supervised practice experience in a program accredited by the Commission on Accreditation of Dietetic Education of the American Dietetic Association is required. Upon successful completion of a supervised practice program, you are eligible to take the CDR National Exam to become a Registered Dietitian. This option is part of a Didactic Program in Dietetics developmentally accredited by the Commission on Accreditation of Dietetic Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-695, 1-800-877-1600. You must work closely with advisors to assure proper scheduling of necessary courses.

**General Education Requirements**

General education requirements are incorporated into the following list. Please check with your advisor.

**Departmental Requirements**

- FCS 181, Interpersonal Skills in Intimate Relationships
- FCSC 400, Research Methods in FCSC
- AXED 456, Introduction to Research Methods
- or HLS 541, Biometrics and Health Research
- FCSC 484, Teaching in Informal Family and Consumer Sciences Settings
- HNFS 201, HNFS Seminar I
- HNFS 251, Human Nutrition or HNFS 163, Nutrition for Health
- HNFS 263G, Food Science I
- HNFS 263M, Nutrition throughout the Life Cycle
- HNFS 264, Quantity Food Production and Service
- HNFS 301, Field Experience-Hospital Dietetics
- HNFS 407, Field Experience-Community Nutrition
- HNFS 402, Community Nutrition
- HNFS 409, HNFS Seminar II
- HNFS 430, Food Service Organization and Management
- HNFS 446, Diet Therapy I
- HNFS 447, Experimental Foods
- HNFS 448, Advanced Nutrition
- HNFS 449, Diet Therapy II
- HNFS upper-division elective

**Nondepartmental Requirements**

- ACCT 251, Management Accounting
- or ACCT 252, Financial Accounting
- BIOL 211G/211GL, Cellular and Organismal Biology and Lab
- BIOL 253, Human Anatomy
- or BIOL/SP M 271 and 271L, Anatomy I
- or BIOL 254, Human Physiology
- BIOL 311, General Microbiology
- CHEM 211, General Chemistry I
- CHEM 212, General Chemistry II
- CHEM 311, Organic Chemistry I and CHEM 312, Organic Chemistry II and CHEM 315, Organic Chemistry Lab
- COMM 253G, Public Speaking
- or COMM 265G, Principles of Human Communication
- or AXED 201, Effective Leadership and Communication in Agricultural Organizations
- ENGL 203G, Business and Professional Communication
- or ENGL 218G, Technical and Scientific Communication
- or ENGL 318V, Advanced Technical and Professional Communication
- or E ST 311G, Statistical Applications
- or STAT 251G, Statistics for Business and Behavioral Sciences
- GOVT 106G, American National Government
- or GOVT 110G, Introduction to Political Science
- or GOVT 150G, American Political Issues
- Historical Perspectives general education requirement
- HNFS 220, Food Microbiology
- or BIOC 219, Public Health Microbiology and BIOC 211L, General Microbiology Lab
- or BIOC 311L, General Microbiology Lab
- Humanities and Fine Arts general education requirement
- MATH 121G, College Algebra
- or MATH 142G, Calculus for the Biological and Management Sciences
- MGT 332, Human Resource Management
- or MGT 309, Human Behavior in Organizations
- or HRT 303, Hospitality Human Resource Management
- OEOH 120, Medical Terminology
- or CHSS 310, Medical Terminology for Health and Social Services Professionals
- PSY 210G, Introduction to Psychology
- Viewing a Wider World:
  - *C EP 451V, Introduction to Counseling
  - *GEOG 315V, World Agriculture and Food Problems
  - *Preferred

**OPTION: Food Science and Technology**

You will follow a basic course plan providing a comprehensive background in the properties and preservation of foods. Graduates may be employed in areas such as food systems management, quality assurance, food safety, product development, or food processing. Job opportunities are available in private industry, educational institutions, and government. You must have a GPA of 2.5 or better before enrolling in FCSC 400, Research Methods in Dietetics, FCSC 484, Teaching in Informal Family and Consumer Sciences Settings; or HNFS 427/428, Food Industry Problems I/II.

**Nondepartmental Requirements**

- AG E 250G, Life With Microcomputers
- or 110G, Computer Literacy
- ANSC 100, Introductory Animal Science
- or 262, Introduction to Meat Science
- BCHE 341, Survey of Biochemistry and Lab
- BIOL 311, General Microbiology
- BIOL 311L, General Microbiology Laboratory
- CHEM 111G, General Chemistry I
- CHEM 112G, General Chemistry II
- CHEM 211, Organic Chemistry I and CHEM 312, Organic Chemistry II and CHEM 315, Organic Chemistry Lab
- COMM 253G, Public Speaking
- or COMM 265G, Principles of Human Communication
- or AXED 201, Effective Leadership and Communication in Agricultural Organizations
- ENGL 203G, Business and Professional Communication
- or ENGL 218G, Technical and Scientific Communication
- or ENGL 318V, Advanced Technical and Professional Communication
- or E ST 311G, Statistical Applications
- or STAT 251G, Statistics for Business and Behavioral Sciences
- GOVT 106G, American National Government
- or GOVT 110G, Introduction to Political Science
- or GOVT 150G, American Political Issues
- Historical Perspectives general education requirement
- HNFS 220, Food Microbiology
- or BIOC 219, Public Health Microbiology and BIOC 211L, General Microbiology Lab
- or BIOC 311L, General Microbiology Lab
- Humanities and Fine Arts general education requirement
- MATH 121G, College Algebra
- or MATH 142G, Calculus for the Biological and Management Sciences
- MGT 332, Human Resource Management
- or MGT 309, Human Behavior in Organizations
- or HRT 303, Hospitality Human Resource Management
- OEOH 120, Medical Terminology
- or CHSS 310, Medical Terminology for Health and Social Services Professionals
- PSY 210G, Introduction to Psychology
- Viewing a Wider World:
  - *C EP 451V, Introduction to Counseling
  - *GEOG 315V, World Agriculture and Food Problems
- *Preferred

**Electives, departmental and nondepartmental, sufficient to bring total credits to 128, including 48 upper-division.**
OPTION: Community Nutrition

This option prepares you to function in a nutrition capacity in a community or public health setting such as the Department of Health (Women, Infant and Child Nutrition Program; Adult Health; Children’s Medical Services), School Food Service, and the Area Agency on Aging. You must attain a C or higher (on campus or transfer) in all CHEM, BIOL, HNFS, HSPS, and SP M course work. You must take at least 30 credits at NMSU and complete 48 credits at the upper-division (300+) level. A minimum of 128 credits is required for the degree. You must have a GPA of 2.5 or better before enrolling in FCSE 400, Research Methods in FCSC, FCSE 348, Teaching in Informal Family and Consumer Sciences Settings; or HNFS 407, Field Experience.

You should be aware that in some states there are licensure laws related to the practice of therapeutic nutrition. Such licensure often requires you to have a minimum of the didactic requirements that are noted by * below. Didactic requirements that are NOT included in this program of study are detailed at the end of the degree requirements. In addition to meeting the didactic requirements, to become a registered dietitian you must also complete a supervised practice program sanctioned by the Commission on Accreditation of Dietetic Education of the American Dietetic Association (ADA) and take the national examination administered by the Commission on Dietetic Registration. To broaden career possibilities, it is highly recommended you complete all requirements to become a registered dietitian. See Dietetics option for requirements to get a verification statement.

Departmental Requirements

FCSE 348, Teaching in Informal Family and Consumer Sciences Settings, or FCSE 345, Management Concepts in Family and Consumer Sciences Teaching* .........................................................3

FCSC 400, Research Methods in Family and Consumer Sciences* ...........................................3

HNFS 201, HNFS Seminar I* ........................................................................................................1

HNFS 251, Human Nutrition* or HNFS 163 Nutrition for Health .................................................3

HNFS 263GG, Food Science I* ....................................................................................................3

HNFS 320, Food Microbiology* ................................................................................................3

HNFS 350, Nutrition throughout the Life Cycle* ........................................................................3

HNFS 403, Community Nutrition* ............................................................................................3

HNFS 407, Community Nutrition Field Experience* .................................................................2

HNFS 409, HNFS Seminar II* .....................................................................................................1

HNFS Nutrition electives (choose 12 hours from the following): HNFS 404, Maternal, Infant and Child Nutrition; HNFS 406, Geriatric Nutrition; HNFS 410, Sports Nutrition; HNFS 416, Nutrition and Culture; HNFS 430, Food Service Organization; HNFS 450, Special Topics; HNFS 492, Special Problems* .................................................................................................................................12

HNFS food science electives (choose 3 hours from the following): HNFS 325, Food Analysis; HNFS 331, Food Preservation; HNFS 447, Experimental Foods* .........................................................................................................................3

Nondepartmental Requirements

AG E 250, Life with Microcomputers, or 110, Computer Literacy* ............................................3

ANTH 431, Nutritional Anthropology; or ANTH 357V, Medical Anthropology; or ANTH 360, Food and Culture Around the World* ......................................................................................................................3

BIOL 211G/211L, Cellular and Organismal Biology* ..................................................................4

CHEM 110G, Principles and Applications of Chemistry; or CHEM 111G/111L, General Chemistry I*; and CHEM 112G/112L, General Chemistry II and Lab* ..........................................................................................................................4 or 8

COMM 256G, Principles of Communication; or COMM 253G, Public Speaking; or AXED 201, Effective Leadership; and Communication in Agricultural Organizations* ........................................................................................................3

ENGL 111G, Rhetoric and Composition* ...................................................................................4

ENGL 203G, Business and Professional Communication; or ENGL 218G, Technical and Scientific Communication; or ENGL 318G, Advanced Technical and Professional Communication* .................................................................................3


GOVT 100G, American National Government; or GOVT 110G, Introduction to Political Science; or GOVT 190G, American Political Issues* .........................................................3

HL S 100, Introduction to Health Science ..................................................................................1

HL S 150G, Personal Health and Wellness .................................................................................3

HL S 275, Foundations of Health Education ...............................................................................3

HL S 286, Wellness and Lifestyle Choices ..................................................................................3

HL S 395, Foundations of Public Health ....................................................................................3

HL S 459, Infectious and Noninfectious Disease Prevention ..................................................3

HL S electives (Choose 15 hours from the following): HL S 450, Epidemiology; HL S 452, Environmental Issues in Community Health; HL S 460, American Indian Health; HL S 461, Health Disparities; HL S 462, Hispanic Health Issues; HL S 464V, Cross-Cultural Aspects of Health; HL S 465, International Health Problems; HL S 467, Rural Health Issues; HL S 469, U.S.-Mexico Border Health Issues; HL S 477, Consumer Health; HL S 492, Health Care of the Aged .........................................................................................................................15

MATH 121G, College Algebra* or MATH 142G, Calculus for the Biological and Management Sciences* .........................................................................................................................3

OEHO 120, Medical Terminology; or CHSS 310, Medical Terminology for Health and Social Services Professionals* ..................................................................................................................................3

PHIL 223G, Ethics* .....................................................................................................................3

PSY 201G, Introduction to Psychology* .....................................................................................3

General Electives ..........................................................................................................................4

General Education Requirements

History General Education requirement .....................................................................................3

Humanities/Fine Arts General Education requirement ................................................................6

Viewing a Wider World requirement: C EP 451V, Introduction to Counseling* .........................3

GEOG 315V, World Agriculture and Food Problems* ............................................................3

Additional course work needed to complete the American Dietetic Association Didactic Program in Dietetics requirements for a Verification Statement:

Departmental Requirements for DPD

HNFS 363, Quantity Food Production and Service ..................................................................4

HNFS 401, Field Experience, Hospital Dietetics .............................................................................4

HNFS 430, Food Service Organization and Management ............................................................3

HNFS 446, Diet Therapy I ............................................................................................................3

HNFS 447, Experimental Foods ................................................................................................3

HNFS 448, Advanced Nutrition ................................................................................................4

HNFS 449, Diet Therapy II ..........................................................................................................3

Nondepartmental Requirements for DPD

ACCT 251, Management Accounting; or ACCT 252, Financial Accounting ..........................3

BCHE 341, Survey of Biochemistry and Lab .............................................................................4

BIOL 253, Human Anatomy, or BIOL/SPM M 271/271L, Anatomy I .........................................3

BIOL 254, Human Physiology ....................................................................................................3

CHEM 111G/111L, General Chemistry I ....................................................................................3

CHEM 112G/112L, General Chemistry II ................................................................................3

CHEM 211, Organic Chemistry ................................................................................................4

MGT 309, Human Behavior in Organizations; or MGT 332, Human Resources Management or HRTM 303, Hospitality Human Resource Management .....................................................................................3

OPTION: Nutrition and Fitness

This option will give you a background in both nutrition and fitness that will prepare you to work in settings such as corporate and community wellness programs, gyms, and other areas related to nutrition and physical fitness. You must attain a C or higher (on campus or transfer) in all CHEM, BIOL, HNFS, HSPS, and SP M course work. You must take at least 30 credits at NMSU and complete 48 credits at the upper division (300+) level. A minimum of 128 credits is required for the degree. You must have a GPA of 2.5 or better before enrolling in FCSC 400, Research Methods in FCSC, FCSE 348, Teaching in Informal Family and Consumer Sciences Settings, or HNFS 407, Field Experience.

You should be aware that in some states there are licensure laws related to the practice of therapeutic nutrition. Such licensure often requires you to meet didactic requirements. Didactic requirements that are NOT included in this program of study are detailed at the end of the degree requirements. In addition to meeting the didactic requirements, to become a registered dietitian you must also complete a supervised practice program sanctioned by the Commission on Dietetic Education of the American Dietetic Association (ADA) and take the
Commission on Dietetic Registration’s national examination administered by the ADA. To broaden career possibilities, it is highly recommended you complete all requirements to become a registered dietitian. See dietetic option for requirements to get a verification statement.

**Departmental Requirements**

- **FCS 181**, Interpersonal Skills in Intimate Relationships.................................................. 3
- **FCS 348**, Teaching in Informal Settings............................................................................. 3
- **HNFS 201**, HNFS Seminar I............................................................................................. 1
- **HNFS 251**, Human Nutrition or HNFS 163, Nutrition for Health................................. 3
- **HNFS 350**, Nutrition Throughout the Life Cycle ............................................................. 3
- **HNFS 403**, Community Nutrition..................................................................................... 3
- **HNFS 401**, Field Experience - Hospital Dietetics............................................................. 1
- **HNFS 407**, Field Experience - Community Nutrition..................................................... 1
- **HNFS 409**, HNFS Seminar II............................................................................................ 1
- **HNFS 410**, Sports Nutrition.............................................................................................. 3
- **HNFS 446**, Diet Therapy I............................................................................................... 3
- **HNFS 448**, Advanced Nutrition....................................................................................... 4
- **HNFS 449**, Diet Therapy II.............................................................................................. 3
- **HNFS Elective.................................................................................................................. 3

**Non-Departmental Requirements**

- **AG E 250**, Life with Microcomputers, 110, Computer Literacy, or BCS 110G, Introduction to Computerized Information Systems.................................................. 3
- **ANTH 431**, Nutritional Anthropology or ANTH 357V, Medical Anthropology or ANTH 360, Food and Culture Around the World.................................................. 3
- **BCHE 341**, Survey of Biochemistry and Lab.................................................................. 4
- **BIOL 211G/L**, Cellular & Organismal Biology................................................................. 4
- **BIOL 254**, Human Physiology....................................................................................... 3
- **CHEM 111G**, General Chemistry I and Lab.................................................................... 4
- **CHEM 111G**, General Chemistry I and Lab.................................................................... 4
- **CHEM 112G**, General Chemistry II and Lab................................................................. 4
- **CHEM 211**, Organic Chemistry or CHEM 313 and CHEM 314 and CHEM 315...................................................................................................................... 4 or 8
- **COMM 265G**, Principles of Communication, or COMM 236G, Public Speaking, or AXED 201, Effective Leadership and Communication in Agricultural Organizations.................................................................................................................. 3
- **E ST 311G**, Statistical Applications, or STAT 251G, Statistics for Business and Behavioral Sciences.................................................................................................................. 3
- **ENGL 111G** or ENGL 111H, Rhetoric and Composition.................................................. 4
- **ENGL 218G** or 218H, Technical & Scientific Communication........................................... 3
- **GOVT 100G**, American National Government, or GOVT 110G, Introduction to Political Science, or GOVT 190G, American Political Issues................................. 3
- **HL S 320**, Human Stress Management............................................................................ 3
- **MATH 121G**, College Algebra or MATH 142G, Calculus for the Biological and Management Sciences I ............................................................................................................. 3
- **OEHO 120**, Medical Terminology, or CHSS 310, Medical Terminology for Health and Social Services Professionals................................................................. 3
- **PE P 209**, Fitness for Health and Sports......................................................................... 3
- **PSY 201G**, Introduction to Psychology........................................................................... 3
- **SP M 250**, Sport Safety.................................................................................................. 2
- **SP M 271/L**, Anatomy I.................................................................................................. 4
- **SP M 305**, Biomechanics............................................................................................... 3
- **SP M 308**, Exercise Physiology...................................................................................... 3
- **SP M 309**, Anatomical Kinesiology................................................................................. 3
- **SP M 330**, Exercise Prescription.................................................................................... 3
- **SP M 415**, Therapeutic Modalities.................................................................................. 4
- **SP M 451**, Advanced Exercise Physiology.................................................................... 3
- **SP M 460**, Principles of Strength and Conditioning...................................................... 3

**General Education Requirements**

- History General Education requirement.......................................................................... 3
- Humanities/Fine Arts Requirement.................................................................................... 3

**Viewing a Wider World Requirements**

- **C EP 451V**, Introduction to Counseling........................................................................ 3
- Additional Viewing a Wider World.................................................................................... 3

**ADA Commission on Dietetic Education of the American Dietetic Association**

Additional course work required for application to obtain a Verification Statement to go to a Supervised Practice program.

**Departmental Requirements**

- **FCSC 400**, Research Methods in FCSC; or AXED 456, Research Methods; or HLS 451, Biometrics and Health Research; HNFS 320 Food Microbiology, or BIOL 219 and BIOL 211L; or BIOL 311 and BIOL 311L, General Microbiology and Lab................................................................. 3-5
- **HNFS 263D**, Food Science I.......................................................................................... 4
- **HNFS 320**, Food Microbiology..................................................................................... 3
- **HNFS 363**, Quantity Foods......................................................................................... 4
- **HNFS 430**, Food Service Organization and Management........................................... 3
- **HNFS 447**, Experimental Foods.................................................................................. 3

**Nondepartmental Requirements**

- **ACCT 251**, Management Accounting, or ACCT 252, Financial Accounting.......... 3
- **GOVG 315V**, World Agriculture and Food Problems................................................. 3
- **MGT 309**, Human Behavior in Organizations or MGT 332, Human Resources Management or HRTM 303, Hospitality Human Resources Management.................................................................................................................. 3

**OPTION: Prehealth with Emphasis in Nutrition**

Students planning to attend medical or dental schools may enroll in any discipline. This option is designed to meet the requirements for entry into most medical or dental schools as well as schools associated with other health professions such as physical therapy and pharmacy. Most professional schools require chemistry (16 credits), biology (8-16 credits), calculus (3 credits) and physics (8 credits). These requirements have been incorporated into this option. In addition to the requirements needed for the delineated health professions, this option will also provide an extensive background in nutrition, which is integral to these professions. Because there is a growing interest in having multi skilled professionals, you may want to also complete the additional course work outlined at the bottom of this program of study so that you will have met the academic requirements for becoming a registered dietitian. You must have a GPA of 2.5 or better before enrolling in FCSC 400, Research Methods in FCSC; FSC 348, Teaching in Informal Family and Consumer Sciences Settings; or HNFS 401/407, Field Experience.

Selection to professional schools is typically based on four separate but interrelated criteria: (1) evaluation of academic transcripts, (2) evaluation of scores on admissions tests, (3) letters of recommendation, and (4) personal interviews. The Health Professions Advisory Committee works with all prospective applicants to professional school to provide advice and information on the admissions process and to ensure that all prehealth students have the best possible opportunity of gaining admission to the school of their choice. You are expected to register with the committee no later than the first semester of your sophomore year. Check with an advisor for information.

**Departmental Requirements**

- **HNFS 163**, Nutrition for Health, or HNFS 251, Human Nutrition............................... 3
- **HNFS 201**, HNFS Seminar I.......................................................................................... 3
- **HNFS 350**, Nutrition Throughout the Life Cycle............................................................. 3
- **HNFS 403**, Community Nutrition.................................................................................. 3
- **HNFS 401**, Field Experience — Hospital Dietetics......................................................... 1
- **HNFS 407**, Field Experience - Community Nutrition.................................................... 1
- **HNFS 446**, Diet Therapy I............................................................................................ 3
- **HNFS 448**, Advanced Nutrition.................................................................................... 4
- **HNFS 449**, Diet Therapy II........................................................................................... 3
- **HNFS 300+ Elective........................................................................................................ 3

**Nondepartmental Requirements**

- **AG E 250**, Life with Microcomputers or C S 110 Computer Literacy......................... 3
- **AXED 456**, Research Methods, or FCSC 400, Research Methods in Family and Consumer Sciences, or HLS 451, Biometrics and Health Research................................................................. 3
- **BCHE 365V**, Biochemistry......................................................................................... 3
- **BIOL 211G/211L**, Cellular and Organismal Biology..................................................... 3
- **BIOL 250** or **BIOL/SP M 271/271L**, Human Anatomy Lecture/Lab.......................... 3
- **BIOL 254**, Human Physiology.................................................................................... 3
Departmental Requirements
FCS 181, Interpersonal Skills in Intimate Relationships.................................3
FCSE 348, Teaching in Informal Settings............................................................3
HNFS 203G, Food Science I..................................................................................4
HNFS 363, Quantity Food Production & Service.................................................4
HNFS 430, Food Service Organization & Management....................................3
HNFS 447, Experimental Foods........................................................................3

Nondepartmental Requirements
ACCT 251, Management Accounting; or ACCT 252, Financial Accounting....3
AG E 319V, World Agriculture and Food Problems.........................................3
ANTH 357V, Medical Anthropology or ANTH 360V, Food and Culture Around the World, or ANTH 431, Nutritional Anthropology........3
MGT 332, Human Resource Management, or MGT 309, Human Behavior in Organizations, or HRTM 333, Hospitality Human Resource Management.................................................................3

MINOR: Clothing, Textiles, and Fashion Merchandising
A minor in Clothing, Textiles, and Fashion Merchandising is available. The minor requires a minimum of 18 hours of which a minimum of 9 hours must be at the 300 or higher level. Specific coursework requirements may apply. See an advisor for course requirements and scheduling.

MINOR: Culinary Science
A minor in Culinary Science is available. The minor requires a minimum of 18 credits of which a minimum of 9 hours must be at the 300 or higher level. Specific coursework requirements apply. A student may earn a bachelor’s degree in Human Nutrition and Food Science or Hotel, Restaurant and Tourism Management and a minor in Culinary Science. See an advisor for course requirements and scheduling.

MINOR: Family and Child Science
A minor in Family and Child Science is available. The minor requires a minimum of 18 hours of which a minimum of 9 hours must be at the 300 or higher level. Specific coursework requirements may apply. See an advisor for course requirements and scheduling.

MINOR: Family and Consumer Sciences Education
A minor in Family and Consumer Sciences Education is available. The minor requires a minimum of 18 hours of which a minimum of 9 hours must be at the 300 or higher level. Specific coursework requirements may apply. See an advisor for course requirements and scheduling.

MINOR: Food Science
A minor in Food Science is available. The minor requires a minimum of 18 hours of which a minimum of 9 hours must be at the 300 or higher level. Specific coursework requirements may apply. See an advisor for course requirements and scheduling.

MINOR: Nutrition
A minor in Nutrition is available. The minor requires a minimum of 18 hours of which a minimum of 9 hours must be at the 300 or higher level. Specific coursework requirements may apply. See an advisor for course requirements and scheduling.

FISH, WILDLIFE and CONSERVATION ECOLOGY

Professor Raul Valdez, department head
Professors Andersen, Caccamise, Valdez; Associate Professor Caldwell, Cowley, Desmond, Roemer; Assistant Professors Bender, Boeing,
(575) 646-1544; FWCE@nmsu.edu

DEGREE: Bachelor of Science in Agriculture
MAJOR: Wildlife Science
OPTIONS: Wildlife Management Practice
Preparation for Graduate Studies
Natural Resource Management

MAJOR: Fisheries

DEGREE: Bachelor of Science in Conservation Ecology
MINOR: Conservation Ecology

DEGREE: Bachelor of Science in Agriculture

The department prepares you for careers in a variety of natural resource fields related to management of wild animal populations and the natural systems they share.

Within the wildlife science major you are offered two options. The Wildlife Ecology and Management Option is for students who plan an emphasis on terrestrial organisms and the Aquatic Ecology and Management Option is for students with an emphasis on aquatic systems.

If you wish to become a certified fishery biologist, you should include the following courses in your curriculum: WLSC 458, WLSC 465, WLSC 482, and WLSC 432. Requirements for becoming a certified wildlife biologist are met by all options.

To graduate with a major in Wildlife Science, an overall grade point average of 2.00 is required in courses taken in the major field and in all courses taken at NMSU. The same requirements for a major in Fisheries.

The department offers a minor in Wildlife Science for students majoring in other disciplines. The minor includes a minimum of 19 credits, with 13 credits in required courses and 6 in wildlife electives.

New Mexico and University Requirements

Area I. Communications (10 credits)
AXED 201G or COMM 253G or COMM 265G .................................................................3
ENGL 111G .................................................................4
ENGL 218G or 318G .....................................................3

Area II. Mathematics (3 credits)
MATH 142G or MATH 191G (MATH 121 prerequisite) ...................................................3

Area III. Science, with Laboratory (8 credits)
Biol 111G/111GL ............................................................4
PHYS 110G or PHYS 221G ..................................................4

Area IV. Social/Behavioral Sciences (6-9 credits)
ECON 251G or ECON 252G ..................................................4
See Catalog .................................................................3-6

Area V. Humanities and Fine Arts (6-9 credits)
See Catalog .................................................................6-9

Viewing a Wider World (6 credits, 3 each from two Colleges outside student’s College).
Requirements fulfilled for College of Arts and Sciences.
See Catalog .....................................................................3

Departmental Requirements

Extra-Departmental Core Courses
AG E 111, Freshman Orientation .................................................................1
AGRO 305, Principles of Genetics .................................................................3
Biol 111G and 111GL, Natural History of Life (and Laboratory) .........................4
Biol 211G, Cellular and Organismal Biology ....................................................4
Biol 313, Structure and Function of Plants .....................................................3
Biol 322, Zoology ..................................................................................3
Chem 111G, General Chemistry I .................................................................4
Chem 112G, General Chemistry II ...............................................................4
(Students requiring additional help with chemistry are encouraged to also take CHEM 101 and 102 – General Supplemental Instruction. Students intending to pursue graduate studies should also take CHEM 211)
E ST 311, Statistical Applications .................................................................3

GOVT 424, Environmental Policy .................................................................3
MATH 142G*, Calculus for Biological and Management Sciences I .................3
or MATH 191, Calculus and Analytical Geometry I ........................................4
PHYS 110G* or PHYS 221G .................................................................4
(Students interested in pursuing graduate studies should take the 221/222 sequence)
RGSC 307/316, Range Plants and Grasses ..................................................5
or BIOL 312, Plant Taxonomy .................................................................3
SOIL 252, Soils or GEOG 111G, Survey of Geology ..................................4
*requirement fulfilled if taken for the “New Mexico and University Requirements”

Departmental Core Courses
WLSC 110, Introduction to Natural Resource Management .........................3
(Off campus students can take WLSC 110 Distance Education)
WLSC 255, Principles of Fish and Wildlife Management ..................................3
WLSC 301, Wildlife Ecology ........................................................................3
WLSC 330, Natural History of the Vertebrates ..............................................4
WLSC 393, Professional Experience ............................................................3
WLSC 402, Seminar in Natural Resource Management ................................1
WLSC 409, Population Ecology .................................................................3
WLSC 464, Management of Aquatic and Terrestrial Systems .....................4
Quantitative Techniques – take one of the 3 classes below
BIOL 488, Principles of Conservation Genetics .............................................3
WLSC 455, Environmental Risks and Decisions .........................................3
WLSC 488, Conservation Genetics ..............................................................3

STUDENTS MUST DECLARE ONE OF THE TWO FOLLOWING OPTIONS

At least two classes must be a taxonomy class (e.g., Invertebrate Zoology, Entomology, Ichthyology, Herpetology, Avian Ecology or Ornithology, Mammalogy). A maximum of 3 credits of “Problems” can count towards the Option. More credits can be taken towards the degree.

Wildlife Ecology & Management Option (4 classes; at least 1 from each category, plus one class from the Aquatic Option – 9-11 credits)

Category 1: Management
RGSC 325, Rangeland Restoration Ecology or RGSC 440, Rangeland Resource Ecology .................................................................3
WLSC 359, Advanced Studies in Fishery and Wildlife Sciences (min. GPA 3.0) 3
WLSC 437, Wildlife Damage Control ..........................................................3
WLSC 466, Advanced Management of Mammals ........................................3

Category 2: Organismal Biology
EPWS 303, Economic Entomology ...............................................................4
EPWS 462, Parasitology ............................................................................4
WLSC 360, Wildlife Behavior or BIOL 439, Animal Behavior .........................3
WLSC 430, Avian Field Ecology or BIOL 447, Ornithology ..........................4
WLSC 431, Mammalogy ............................................................................3
WLSC 432, Environmental Biology of Fishes ..............................................4
or ANSC 370 (4) or BIOL 314 (3) or BIOL 377 or BIOL 381 (3) or BIOL 442 or BIOL 474, Physiology class

Category to be assigned
WLSC 448, Problems* .................................................................1-3
WLSC 450, Special Topics .................................................................1-4
* consent of instructor is needed

Aquatic Ecology & Management Option (4 classes; at least 1 from each category, plus 1 class from Wildlife Option – 15-20 credits)

Category 1: Management
RGSC 318, Watershed Management ..........................................................3
WLSC 359, Advanced Studies in Fishery and Wildlife Sciences (min. GPA 3.0) .3
WLSC 459, Aquatic Ecology .....................................................................4

Category 2: Organismal Biology
BIOL 465, Invertebrate Zoology ...............................................................4
EPWS 439, Aquatic and Immature Insects ................................................4
Students are encouraged to pursue a minor course of study with a department of their choosing. Compatible minors include, but are not limited to, accounting, animal science, biology, business administration, chemistry, environmental science, forensic sciences, geography, journalism, management, and range science.

Notes:
1. No more than 6 credits of Physical Education classes will count towards your degree.
2. Maximum of two grades of 'D' in WLSC classes will count towards a student's degree.
3. Nine (9) cr. hrs in botany or related plant sciences are required to be eligible to apply for a Government job as a Wildlife Biologist (GS-486).


General Education Common Core Area I (10 credits)

Communications
AXED 201G or COMM 253G or COMM 265G  .................................................. 4
ENGL 111G .............................................................................................................. 4
ENGL 218G or 319G .................................................................................................. 3

General Education Common Core Area II (3 credits)

Mathematics
MATH 142G or MATH 191G (MATH 121 prerequisite)  ............................................. 3

General Education Common Core Area III (8 credits)

Laboratory Sciences
BIOL 111G + L ........................................................................................................... 4
PHYS 110G ................................................................................................................. 4

General Education Common Core Areas IV & V (15 credits)

Social/Behavioral Sciences and Humanities/Fine Arts

Social/Behavioral Sciences
ECON 251G or ECON 252G .................................................................................... 3
See Catalog to select from 3-6 additional credits

Humanities and Fine Arts
See Catalog to select 6-9 credits

General Education Requirements – Part III

Viewing a Wider World (6 credits)

(Requirements satisfied by 9-hour rule with Biology course work)
See Catalog (3)

Fish, Wildlife and Conservation Ecology Departmental Requirements

AG E 111, Freshman Orientation ............................................................................. 1
AGRO 305, Principles of Genetics ........................................................................... 3
BIOL 111G*, Natural History of Life ....................................................................... 4
BIOL 211, Cellular and Organisinal Biology ............................................................. 4
BIOL 313, Structure and Function of Plants ................................................................ 3
BIOL 322, Zoology ................................................................................................... 3
CHEM 111 and 112, General Chemistry ................................................................. 8
E ST 311G, Statistical Applications ......................................................................... 3
GOVT 424, Environmental Policy ........................................................................... 3
MATH 142G*, Calculus for the Biological and Management Sciences I .................. 3
or MATH 191G, Calculus and Analytic Geometry I ................................................. 3

ADDITIONAL ELECTIVES

Take additional credits so the total adds up to at least 128 credits including 55 credits 300- and 400-level classes.

Students are encouraged to pursue a minor course of study with a department of their choosing.

*Rights of admission to the program are reserved to the Director of the Department.

ANSC 370, BIOL 314, BIOL 330, BIOL 354, BIOL 377, BIOL 474, EPWS 303, EPWS 462, WLSC 360, WLSC 430, WLSC 431, WLSC 432

Take one of the following 3 classes in Quantitative Techniques (3 credits):

AGRO 305, Principles of Genetics ........................................................................... 4
or PHYS 221G General Physics for Life Sciences ...................................................... 3
RGSC 307, Range Plants and Grasses ...................................................................... 5
or BIOL 312, Plant Taxonomy .................................................................................. 3
SOIL 292, Soils .......................................................................................................... 4
or GEOL 111, Survey of Geology ............................................................................ 4
WLSC 110, Introduction to Natural Resource Management .................................... 3
WLSC 255, Principles of Fish and Wildlife Management ........................................ 3
WLSC 301, Wildlife Ecology ..................................................................................... 3
WLSC 330, Natural History of the Vertebrates (was WLSC 230) .............................. 4
WLSC 393, Professional Experience ....................................................................... 3
WLSC 402, Seminar .................................................................................................. 1
WLSC 409, Population Ecology .............................................................................. 3
WLSC 464, Management of Aquatic and Terrestrial Systems ............................... 4

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Requirements for Wildlife Ecology and Management Option (9-11 credits)
Management (take one of the following courses – 3 credits)
RGSC 325 or WLSC 359 or WLSC 437 or WLSC 466 .................................................. 3
Organisinal Biology Techniques (take one of the following courses - 3-4 credits)
ANSC 370, BIOL 314, BIOL 330, BIOL 354, BIOL 377, BIOL 381, BIOL 474, EPWS 303, EPWS 462, WLSC 360, WLSC 430, WLSC 431, WLSC 432
Aquatic Ecology and Management (take one of the following courses – 3-4 credits)
ANSC 370, BIOL 314, BIOL 330, BIOL 354, BIOL 377, BIOL 381, BIOL 474, EPWS 435, EPWS 462, RGSC 318, WLSC 359, WLSC 432, WLSC 459, WLSC 482

Requirements for Aquatic Ecology and Management Option (9-11 credits)
Management (take one of the following courses – 3 credits)
RGSC 318, WLSC 359, WLSC 459
Organisinal Biology (take one of the following courses – 3-4 credits)
ANSC 370, BIOL 314, BIOL 330, BIOL 354, BIOL 377, BIOL 381, BIOL 474, EPWS 435, EPWS 462, WLSC 432, WLSC 482
Wildlife Ecology and Management (take one of the following courses 3-4 credits)
ANSC 370, BIOL 314, BIOL 330, BIOL 354, BIOL 377, BIOL 381, BIOL 474, EPWS 435, EPWS 462, RGSC 325, WLSC 359, WLSC 430, WLSC 431, WLSC 432, WLSC 437, WLSC 466

DEGREE: Bachelor of Science in Conservation Ecology
MAJOR: Conservation Ecology
MINOR: Conservation Ecology

Co-directors of the Program:
Daniel Howard, Ph.D., department head, Biology
Raul Valdez, Ph.D., department head, Fishery and Wildlife Sciences

Program Participants:
Professors
Andersen, Boecklen, Gutschick, Milligan
Associate Professors
Boren, Cowley, Desmond, Houde, Nishiguchi, Roemer, G. Smith
Assistant Professors
Bailey, Boeing, Gustafson, Hanley, Preeceiler, Throp, Wright

New Mexico State University offers an interdisciplinary, undergraduate program in Conservation Ecology. The goal of this program is to train biologists for the current and future challenges that we face in the conservation and wise use of our Earth’s natural resources. An overriding principle of the program is to provide a solid foundation in basic science coupled with a practical approach towards sustainability and stewardship. The curriculum encompasses several disciplines and includes a wide variety of courses from Biology, Fishery and Wildlife Science, Geography, Government, and Range Science.

The education experience will provide students with an overview of global biodiversity and an understanding of the ecological and evolutionary processes that have created and sustained it. Courses in population and community ecology coupled with population viability analysis and risk assessment will give students the necessary background to understand the theory and development of these fields as well as the tools to tackle real-world problems. Courses in basic genetics, evolution, and conservation genetics will expose students to the importance of conserving genetic variation in order to maintain adaptive potential within populations, thereby sustaining the evolutionary process. Students will...
also receive background on wildlife law and environmental policy, information vital for assisting governing bodies in making decisions regarding the protection and wise use of our natural resources. Skills obtained in the application of geographic information systems, molecular genetics, and professional communication can also be acquired through various electives. In sum, we seek to provide undergraduate students with an education that will allow them the opportunity to contribute to the conservation of all life on Earth.

The requirements are listed below. In addition, each required course must be passed with a grade of C or better.

DEGREE REQUIREMENTS

NOTE: General Education requirements were under revision at the time of publication. Students must check with their academic advisor for current requirements and lists of specific courses that meet these requirements.

Core Curriculum (Includes University and College Requirements 67-68 credits)
CHEM 111G/112G, General Chemistry I/II ......................................................... 8
CHEM 211, Organic Chemistry ........................................................................... 4
BCHE 341, Survey of Biochemistry ................................................................. 3
C S Elective - Any Computer Science course 100 or above, or AXED 250G, Life with Microcomputers .......................... 3
E ST 311, Statistical Applications .................................................................. 3
ENGL 111G, Rhetoric and Composition .............................................................. 4
ENGL 316G, Advanced Technical and Professional Communication or ENGL 311G, Advanced Composition ....................... 3
 Liberal Studies—Historical Perspectives General Education ......................... 3
 Liberal Studies—English Literature and Fine Arts, General Education .......... 3
 Liberal Studies—one course in a liberal studies discipline not already taken ...... 3
 Social Science—Human Thought and Behavior General Education ............... 3
 Social Science—Social Analysis General Education, COMM 265G Principles of Human Communication ........................................ 3
 Social Science—ECON 250G, Principles of Macroeconomics ....................... 3
 MATH 121, Intermediate Algebra; and MATH 142G, Calculus for Biological and Management Sciences I or MATH 191/192, Calculus and Analytical Geometry II/III ............................ 6
 PHYS 211/211L, General Physics I/Laboratory .................................................. 4
 PHYS 212/212L, General Physics II/Laboratory .................................................. 4
 Physiology—Any physiology course among the following: ......................... 3/4
 WLSC 432, BIOL 311, 314, 377, 381, 474, 442, ANSC 370
Viewing a Wider World—ECON 337V. Natural Resource Economics .......... 3
(Second VWW course will be satisfied using the 9-hour rule: students with Biology as home department use WLSC courses and students with Wildlife Science as home department use BIOL courses.)

Major Requirements (43-45 credits)
WLSC 330, Natural History of the Vertebrates (was WLSC 230) ....................... 4
WLSC 255, Principles of Natural Resource Management ............................... 3
WLSC 402, Seminar in Natural Resource Management ................................ 1
BIOL 111G, Natural History of Life ................................................................. 3
BIOL 111GL, Natural History of Life Laboratory ........................................ 3
BIOL 211G, Cellular and Organismal Biology ............................................... 3
BIOL 211GL, Cellular and Organismal Biology Laboratory ......................... 1
BIOL 462, Conservation Biology ................................................................... 3
BIOL 301, Principles of Ecology or WLSC 301, Wildlife Ecology ................. 3
BIOL 305, Principles of Genetics ................................................................... 3
BIOL 467, Evolution ......................................................................................... 3
BIOL 312, Plant Taxonomy, or RGSC 307, Rangeland Grasses, and
RGSC 316, Rangeland Plants ........................................................................... 3
BIOL 313, Structure and Function of Plants .................................................. 3
BIOL 322, Zoology ......................................................................................... 3
WLSC 409, Population Ecology, or BIOL 470, Plant Community Ecology .... 3

Requirements in Diversity of Life: Any two courses (6-8 credits)
WLSC 430, Avian Field Ecology, or BIOL 447, Ornithology ......................... 4
WLSC 431, Mammalogy .................................................................................. 3
WLSC 482, Ichthyology ................................................................................... 3

BIOL 432/433L, Insect Biology/Laboratory ...................................................... 4
BIOL 445, Herpetology .................................................................................. 3
BIOL 465, Invertebrate Zoology .................................................................. 4

Additional courses
Electives to bring total to 128 credits including 54 upper division credits

Recommended Electives
BIOL 468, Avian Ecology .............................................................................. 3
BIOL 489, Principles Conservation Genetics or WLSC 408, Conservation Genetics ......................................................... 3
BIOL 489, Genetic Aspects of Population Biology ........................................ 3
GEOG 381, Cartography ................................................................................ 3
GEOG 481, Fundamentals of Geographic Information Systems .................. 3
WLSC 464, Management of Aquatic and Terrestrial Systems ..................... 3

Other Related Courses
RGSC 318, Watershed Management ............................................................. 3
RGSC 325, Rangeland Restoration Management ........................................... 3
RGSC 452, Rangeland Analysis .................................................................... 1
GEOL 111G, Survey of Geology ................................................................. 3
GEOL 295, Environmental Geology ............................................................ 3
GEOL 424, Environmental Policy ................................................................. 3
GOVT 478, U.S.-Mexico Border Politics ........................................................ 3
HIST 400, Special Topics: Environmental History of the Southwest ........... 3
HIST 418, From the Wild West to the Atomic Age ....................................... 3
HIST 429, Plague, Plunder, and Preservation: American Environmental History.... 3
TOX 423, Environmental Toxicology ............................................................ 3

MINOR: Conservation Ecology

A minor in conservation ecology is available for students who choose to major in other areas, but wish to include conservation ecology in their academic training. The minor must include a minimum of 20 credits in the discipline, with 9 of these coming from upper-division courses.

Requirements
Core Curriculum (17 credits)
BIOL 1110, Natural History of Life ............................................................... 3
BIOL 1110L, Natural History of Life, Lab ..................................................... 1
WLSC 330, Natural History of the Vertebrates ............................................ 4
BIOL 301, Ecology or WLSC 301, Wildlife Ecology .................................. 3
BIOL 462, Conservation Biology or WLSC 310, Managing Ecological Systems for Biodiversity ............................... 3

Conservation (3 Credits)
BIOL 489, Principles of Conservation Genetics ........................................... 3
BIOL 467, Evolution ..................................................................................... 3
WLSC 409, Population Ecology ................................................................. 3
WLSC 464, Management of Aquatic and Terrestrial Systems .................... 3

PLANT and ENVIRONMENTAL SCIENCES

Professor Greg L. Mullins, department head
Professor John G. Mexal, assistant department head

Professors Bosland, Cramer, Daugherty, Guilden, Harrington, Lindemann, Mexal, Monger, Mullins, O'Connell, Piccioni, Ray, Sammis, Sengupta-Gopalan, St.
Hilaire; Associate Professors Flynn, O'Neill, Ulery, Zhang; Assistant Professors
Angadi, Goss, Shukla, Uchanski, Unc
(575) 646-3405; (575) 646-6041 (fax); (866) 884-7231 (toll free number)

DEGREE: Bachelor of Science in Agriculture

MAJOR: Agronomy

OPTIONS: Crop Consulting
Five options are available in the agronomy major. In addition to the completion of the requirements of the major listed above, you must elect an option and complete 25 credits from the requirements for that option. To deviate from the courses required within an option, you must file a formal petition, subject to approval by departmental committee. You should develop a specific program of study in consultation with a departmental agronomy advisor.

**OPTION: Crop Consulting**

Required courses marked with an asterisk (*).

- AGRO 365, Principles of Crop Production* .................................................. 4
- AGRO 462, Plant Breeding* ........................................................................ 3
- AGRO 492, Diagnosing Plant Disorders* ................................................... 3
- AG E 236, Agribusiness Management Principles ........................................... 3
- AG E 315V, World Agriculture and Food Problems ......................................... 3
- AG E 450, Advanced Microcomputer Applications in Agriculture .................. 3
- AGRO 311, Weed Science ............................................................................ 4
- B A 202, Small Business Enterprise ............................................................ 3
- EPWS 314, Plant Physiology ......................................................................... 3
- EPWS 455, Advanced Insect Pest Management ............................................ 3
- EPWS 456, Biological Control ...................................................................... 3
- HORT 471, Plant Mineral Nutrition ................................................................. 3
- HORT 485, Vegetable Crop Management ...................................................... 3
- SOIL 312, Soil Management and Fertility ....................................................... 3
- SOIL 312L, Soil Management and Fertility Lab ............................................... 1
- SOIL 456, Irrigation and Drainage ................................................................. 3
- SPAN 111, Elementary Spanish I ................................................................... 4
- SPAN 211,Intermediate Spanish I ................................................................. 3

**OPTION: Plant Genetics**

Required courses marked with an asterisk (*).

- AGRO 365, Principles of Crop Production* .................................................. 4
- AGRO 462, Plant Breeding* ........................................................................ 3
- AGRO 492, Diagnosing Plant Disorders* ................................................... 3
- AG E 236, Agribusiness Management Principles ........................................... 3
- AG E 315V, World Agriculture and Food Problems ......................................... 3
- AG E 450, Advanced Microcomputer Applications in Agriculture .................. 3
- AGRO 311, Weed Science ............................................................................ 4
- B A 202, Small Business Enterprise ............................................................ 3
- EPWS 314, Plant Physiology ......................................................................... 3
- EPWS 455, Advanced Insect Pest Management ............................................ 3
- EPWS 456, Biological Control ...................................................................... 3
- HORT 471, Plant Mineral Nutrition ................................................................. 3
- HORT 485, Vegetable Crop Management ...................................................... 3
- SOIL 312, Soil Management and Fertility ....................................................... 3
- SOIL 312L, Soil Management and Fertility Lab ............................................... 1
- SOIL 456, Irrigation and Drainage ................................................................. 3
- SPAN 111, Elementary Spanish I ................................................................... 4
- SPAN 211,Intermediate Spanish I ................................................................. 3

**OPTION: General Agronomy**

Required courses marked with an asterisk (*).

- AG E 236, Agribusiness Management Principles ........................................... 3
- AG E 305, Marketing and Pricing Agricultural Products .................................. 3
- AG E 315V, World Agriculture and Food Problems ......................................... 3
- AGRO 357, Climatology ............................................................................... 3
- AGRO 391, Internship .................................................................................. 1-3
- AGRO 471, Plant Mineral Nutrition* ................................................................. 3
- AGRO 492, Diagnosing Plant Disorders* ................................................... 3
- BIOL 312, Plant Taxonomy ........................................................................... 4
- BIOL 313, Structure and Function of Plants* ............................................... 4
- BLAW 316, Legal Environment of Business .................................................. 3
- EPWS 314, Plant Physiology ......................................................................... 3
- HORT 250, Plant Propagation ...................................................................... 3
- HORT 350, Arbiculture .................................................................................. 3
- HORT 485, Vegetable Crop Management ...................................................... 3
- RSCG 294, Rangeland Resource Management ............................................. 3
- RSCG 325, Rangeland Restoration Ecology ................................................... 3
- RSCG 465, Public Lands Policy and Analysis .................................................. 3
- SOIL 456, Irrigation and Drainage ................................................................. 3
SUR 221, General Surveying.................................................................3

DEGREE: Bachelor of Science in Agriculture
MAJOR: Horticulture

Horticulture includes a wide variety of topics that relate to fruit, vegetable, and ornamental crops, and their uses. Careers range from production management to processing and marketing, retail and wholesale management, greenhouse and nursery production, floriculture, landscaping, turf management, research and development, various service activities and positions with local, state, and federal agencies.

Requirements of Horticulture Major
Each of the following courses is required:
- BIOL 111G, Natural History of Life, or BIOL 211G, Cellular and Organismal Biology .................................................................3
- BIOL 314, Plant Physiology.................................................................3
- CHEM 111G, 112G, General Chemistry I, II or CHEM 114 and CHEM 211 .......................................................................................8
- EPWS 303, Economic Entomology....................................................4
- EPWS 310, Plant Pathology.................................................................4
- HORT 447, Seminar ..............................................................................1
- MATH 142G, Applied Mathematics for the Biological and Social Sciences; or MATH 121G, College Algebra ........................................3
- SOIL 252, Soils ..................................................................................3

At least 29 credits from horticulture courses with a grade of C or above.
Choose from the following courses:
- HORT 100G, Introductory Plant Science ...........................................4
- HORT 115, Introduction to Forestry ...................................................3
- HORT 200, Special Topics ....................................................................1-4
- HORT 205, Introduction to Horticulture .............................................3
- HORT 210, Ornamental Plants I ..........................................................4
- HORT 211, Ornamental Plants II .........................................................4
- HORT 240, Floral Quality Evaluation and Design ................................2
- HORT 241, Floriculture Field Practicum ............................................1
- HORT 250, Plant Propagation ..............................................................3
- HORT 300, Special Topics ..................................................................1-4
- HORT 301, Introduction to Landscape Horticulture .........................3
- HORT 302V, Forestry and Society .......................................................3
- HORT 305, Principles of Genetics .......................................................3
- HORT 305L, Genetics Techniques ........................................................1
- HORT 307, Landscape Design ............................................................3
- HORT 308, Landscape Construction ..................................................3
- HORT 310, Medicinal Herbs .................................................................3
- HORT 310L, Medicinal Herbs Laboratory ..........................................1
- HORT 330, Organic Fall Vegetable Production (f) ............................3
- HORT 331, Organic Spring Vegetable Production (s) ........................3
- HORT 340, Plant Tissue Culture Methods ..........................................3
- HORT 350, Arboreiculture .................................................................2
- HORT 380, Biological Information Systems ......................................3
- HORT 385, Principles of Crop Production ..........................................4
- HORT 391, Internship ..........................................................................1-3
- HORT 401, Turf Management ...........................................................4
- HORT 420, Postharvest Biology and Technology ................................4
- HORT 447, Seminar .............................................................................1
- HORT 449, Special Problems ............................................................1-3
- HORT 450, Special Topics .................................................................1-4
- HORT 452, Independent Studies in Bioinformatics ..........................1-3
- HORT 460, System Analysis & Automation in Biological Laboratories .................................................................3
- HORT 462, Plant Breeding .................................................................3
- HORT 465, Landscape Case Studies ..................................................3
- HORT 471, Plant Mineral Nutrition ....................................................3
- HORT 475, Woody Plant Physiology ..................................................3
- HORT 484, Ornamental Plant Production and Management .............4
- HORT 485, Vegetable Crop Management .........................................4
- HORT 486, Intermediate Genetics ....................................................3
- HORT 488, Greenhouse Management ..............................................4
- HORT 492, Diagnosing Plant Disorders ............................................3

Five options are available in the horticulture major. In addition to the completion of the requirements of the major listed above, you must elect an option and complete the requirements for that option. You should develop a specific program of study in consultation with a departmental horticulture advisor. If you want to apply for certification as a professional horticulturist, you should also complete HORT 305, Genetics, and either BCHE 341, Biochemistry, or CHEM 211, Organic Chemistry.

OPTION: Ornamental Horticulture
Select 4 courses from the following list:
- HORT 210 or 211, Ornamental Plants I, II .................................4
- HORT 250, Plant Propagation ..........................................................3
- HORT 301, Introduction to Landscape Horticulture .................3
- HORT 365, Principles of Crop Production .......................................4
- HORT 484, Ornamental Plant Production and Management ........4
- HORT 488, Greenhouse Management .........................................4

Select 8 courses from the following list (or similar alternative courses with same prefix and level after consultation with advisor):
- AG E 236, Agribusiness Management Principles ..........................3
- AG E 250, Life with Microcomputers, or CS 110, Computer Literacy 3
- AG E 305, Marketing and Pricing Agricultural Products, or MKTG 303, Principles of Marketing .................................3
- AG E 425, Agribusiness Financial Management ............................3
- AGRO 311, Weed Science .................................................................4
- BIOL 301, Principles of Ecology ......................................................3
- BIOL 313, Structure and Function of Plants ...................................3
- BLAW 316, Legal Environment of Business ...................................3
- EPWS 452, Applied Pesticide Technology ........................................3
- EPWS 456, Biological Control ........................................................3
- MGT 317V, Social Relations and Organizations ..............................3
- MKTG 313, Retail Management ......................................................3
- SOIL 312, Soil Management and Fertility ........................................3

OPTION: Landscape Design
Required courses:
- HORT 210, Ornamental Plants I .......................................................4
- HORT 211, Ornamental Plants II .........................................................4
- HORT 307, Landscape Design ............................................................3
- HORT 308, Landscape Construction ..................................................3
- HORT 465, Landscape: Case Studies ................................................3

Select 8 courses from the following:
- A EN 372, Landscape Irrigation Design or A EN 479, Irrigation Systems Design and Management ...............................................3
- AG E 236, Agribusiness Management Principles ..........................3
- AG E 250, Life with Microcomputers, or CS 110, Computer Literacy 3
- AG E 437, Resource Economics for Engineers and Planners ..........3
- ART 150, Drawing I or ART 151, Drawing II .....................................3
- AXED 331, Agricultural Structures ................................................3
- BLAW 316, Legal Environment of Business ...................................3
- BLAW 385V, Consumers and Law ..................................................3
- MGT 315V, Human Relations in Organizations .............................3
- MKTG 303, Principles of Marketing .................................................3
- OEMN 150, Landscape Irrigation Systems ......................................4
- PLAN 201, Introduction to Planning and Community Development ....3
- PLAN 301, Legal Aspects of Planning ..............................................3
- SOIL 350, Soils and Land Use ............................................................3
- SPAN 111, Beginning Spanish ..........................................................3

OPTION: Horticulture Business
Select 8 courses from the following list:
For this option to satisfy the minor in Business Administration, nine credits must be upper division and nine credits must have one of the following prefixes: ACCT, BUSA, ECON, FIN, MGT, MKTG.
ACCT 251, Management Accounting ..........................................................3
ACCT 252, Financial Accounting .................................................................3
AG E 236, Agribusiness Management Principles .......................................3
AG E 250, Life with Microcomputers .........................................................3
AG E 425, Agribusiness Financial Management .........................................3
AG E 450, Advanced Microcomputer Applications in Agriculture.............3
BLAW 316, Legal Environment of Business ..............................................3
BUSA 111, Business in a Global Society ....................................................3
ECON 251G, Principles of Macroeconomics ............................................3
ECON 252G, Principles of Microeconomics ..............................................3
E ST 311V, Statistical Applications ............................................................3
FIN 306, Principles of Finance .................................................................3
MGT 309, Human Behavior in Organizations ............................................3
MGT 315V, Human Relations in Organizations .........................................3
MGT 332, Human Resources Management .............................................3
MKTG 303, Principles of Marketing .........................................................3
MKTG 305, Marketing and Pricing Agricultural Products ..........................3
MKTG 313, Retail Management ..................................................................3

OPTION: Crop Consulting
Select 4 courses from the following list:

HORT 365, Principles of Crop Production .................................................4
HORT 420, Postharvest Biology and Technology ......................................4
HORT 462, Plant Breeding ........................................................................3
HORT 471, Plant Mineral Nutrition .........................................................3
HORT 485, Vegetable Crop Management ...............................................4
HORT 492, Diagnosing Plant Disorders ....................................................3

Select 8 courses from the following:

AG E 236, Agribusiness Management Principles ....................................3
AG E 250, Life with Microcomputers .......................................................3
AG E 315V, World Agriculture and Food Problems .................................3
AG E 450, Advanced Microcomputer Applications in Agriculture ..........3
AGRO 311, Weed Science .........................................................................4
AGRO 483, Sustainable Production of Agronomic Crops .........................3
BIOL 301, Principles of Ecology ..............................................................3
BIOL 313, Structure and Function of Plants .............................................3

EPWS 372, Fungal Biology .................................................................3
EPWS 455, Advanced Insect Pest Management .......................................3
EPWS 456, Biological Control ..................................................................3
EPWS 481, Plant Nematology .................................................................3
HNFS 320, Food Microbiology ...............................................................3
HNFS 421, Food Chemistry .....................................................................3
SOIL 312, Soil Management and Fertility ...............................................3
SOIL 456, Irrigation and Drainage ............................................................3
SOIL 475, Soil Microbiology ....................................................................3
SPAN 111, Elementary Spanish I ............................................................4
SPAN 211, Intermediate Spanish I ..........................................................3

OPTION: Plant Genetics

Required courses:

CHEM 211, Organic Chemistry ...............................................................4
BCH 341, Survey of Biochemistry ..........................................................3
BCH 342, Introductory Biochemistry Laboratory .....................................1
E ST 311G, Statistical Applications ........................................................3
HORT 305, Principles of Genetics ............................................................3

Select at least 15 credits from the following courses:

AGRO 303V, Genetics and Society ..........................................................3
ANSC 423, Animal Breeding .....................................................................3
BCH 356, Biochemistry and Biotechnology ...........................................3
BCH 397, Experimental Biochemistry Laboratory ..................................3
BCH 494, Techniques in Genetic Engineering .........................................4
Biol 440, Molecular Systematics .............................................................3
Biol 467, Evolution ................................................................................3
BIOL 478, Molecular Biology of Microorganisms ...................................3
EPWS 301, Agricultural Biotechnology ..................................................3
E ST 456, Statistical Methods and Data Analysis ....................................3
HORT 305L, Genetics Techniques ..........................................................1
HORT 340, Plant Tissue Culture Methods ..............................................3
HORT 449, Special Problems ................................................................1
HORT 452, Independent Studies in Bioinformatics .................................1
HORT 462, Plant Breeding .......................................................................3
HORT 486, Intermediate Genetics ..........................................................3
MOLB 470, Genome Analysis and Bioinformatics .................................3

DEGREE: Bachelor of Science in Agriculture

MAJOR: Soil Science

Soil scientists are concerned with the physical, chemical, and biological characteristics and behaviors of soils, their description and classification, and their management for both agricultural and non-agricultural uses. Career opportunities include jobs with industry, environmental consulting firms, and federal, state, and local governments working on various environmental, agricultural, and ecological projects.

Requirements of Soil Science Major

In addition to the courses listed for each major, you must take 35 credits in the College of Agricultural, Consumer and Environmental Sciences, and you must meet university general education requirements. At least 24 credits of soil science related courses with a grade of C or above including:

SOIL 252, Soils .........................................................................................3
SOIL 252L, Soils Laboratory .................................................................1
SOIL 312, Soil Management and Fertility .............................................3
SOIL 312L, Soil Management and Fertility Lab .....................................1
SOIL 447, Seminar ................................................................................1

Four of the following courses:

SOIL 424, Soil Chemistry .......................................................................3
SOIL 456, Irrigation and Drainage .........................................................3
SOIL 472, Soil Morphology and Classification .......................................4
SOIL 476, Soil Microbiology .................................................................3
SOIL 477, Environmental Soil Physics ..................................................3

Other required courses include:

Two Biology courses (6 credits) from the following:

BIOL 111G, Natural History of Life ......................................................3
BIOL 211G, Cellular and Organismal Biology .......................................3
BIOL 311, Microbiology ..........................................................................3
CHEM 111G, 112G, General Chemistry I, II ..........................................8
One additional CHEM course above CHEM 200, except CHEM 310V ....3-4
GEOL 111G, Survey of Geology ............................................................4
MATH 142G, Applied Mathematics for the Biological and Social Sciences I or MATH 191G, Calculus and Analytic Geometry I .............................3

PHYS 211G, General Physics I ...............................................................3

A computer-oriented course above CS 110 approved by the department ....2-4

Soil Science Options

Three options are available in soil science. In each case, your academic advisor has a list of appropriate courses.

OPTION: Soils

Crop production and plant growth are emphasized in the general soils option. Soil management, soil conservation, and soil reclamation are related to plant growth for those students interested in both private industry and government employment opportunities as well as farm management. You must select one course from each of the four following subject matter areas and a total of at least ten courses (30 credits): soil, water or range management; crop production or protection; farm and ranch management and economics; math, statistical, or computer sciences.

OPTION: Environment and Resource Management

Soil science is integrated into the management of the environment and natural resources. Students interested in careers of conservation, environmental management, urban planning, waste disposal, and related fields in govern-
ment and industry may choose from a variety of course offerings. The economic and social implications as well as the technological aspects of resource management are included in the option courses. You must select one course from each of the four following subject matter areas and a total of at least ten courses (30 credits): soil, water, wildlife, or range conservation and economics; ecology, plant biology, or crop production; earth, mineral, or climatic resources; math, statistical, or computer sciences.

**OPTION: Soil and Water Science**

The soil and water science option is for students interested in careers in water management and water quality. Employment opportunities exist with irrigation districts, consulting firms, and government agencies dealing with water management and quality. The optimum use of water in semi-arid areas is emphasized through selection of courses in the technical and social sciences. You must select one course from each of the four following subject matter areas and a total of at least ten courses (30 credits): soil and water engineering; ecology; crop production and protection; math, statistical, or computer sciences.

**DEGREE: Bachelor of Science in Agriculture**

**MAJOR: Turfgrass Science and Management**

Turfgrass managers help build, maintain, and manage golf courses, athletic fields, parks, and other recreational areas. The curriculum of each option allows you to focus on a specific segment of the turfgrass industry. All majors are required to pursue two internships with a golf course, park department, athletic field, lawn care operator or other acceptable turfgrass segment.

**Turfgrass Science and Management Core Requirements I**

<table>
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<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 111G, 190 or 211G, Biology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111G, CHEM 112G, General Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>EPWS 311, Introduction to Weed Science</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 314, Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HORT 377, Introduction to Turfgrass Management</td>
<td>4</td>
</tr>
<tr>
<td>HORT 379, Turfgrass Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT 391, Internship (two)</td>
<td>6</td>
</tr>
<tr>
<td>HORT 447, Seminar</td>
<td>1</td>
</tr>
<tr>
<td>HORT 479, Advanced Turfgrass Science</td>
<td>4</td>
</tr>
<tr>
<td>MATH 121G, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>SOIL 252, Introduction to Soils</td>
<td>3</td>
</tr>
</tbody>
</table>

**Turfgrass Science and Management Core Requirements II (27 credits from the following):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 211, Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 303, Economic Ecology</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 310, Plant Pathology</td>
<td>4</td>
</tr>
<tr>
<td>HORT 100G, Introduction to Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>HORT 110, Athletic Field and Golf Course Management</td>
<td>1</td>
</tr>
<tr>
<td>HORT 206, Genetics in the Media</td>
<td>3</td>
</tr>
<tr>
<td>HORT 210, Ornamental Plants I</td>
<td>4</td>
</tr>
<tr>
<td>HORT 211, Ornamental Plants II</td>
<td>4</td>
</tr>
<tr>
<td>HORT 250, Propagation</td>
<td>3</td>
</tr>
<tr>
<td>HORT 300, Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>HORT 301, Introduction to Landscape Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>HORT 305, Principles of Genetics</td>
<td>3</td>
</tr>
<tr>
<td>HORT 307, Landscape Design</td>
<td>3</td>
</tr>
<tr>
<td>HORT 308, Landscape Construction</td>
<td>3</td>
</tr>
<tr>
<td>HORT 350, Arboriculture</td>
<td>2</td>
</tr>
<tr>
<td>HORT 365, Principles of Crop Production</td>
<td>4</td>
</tr>
<tr>
<td>HORT 450, Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>HORT 462, Plant Breeding</td>
<td>3</td>
</tr>
<tr>
<td>HORT 471, Plant Mineral Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HORT 475, Woody Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HORT 492, Diagnosing Plant Disorders</td>
<td>3</td>
</tr>
<tr>
<td>P E 150, Beginning Golf</td>
<td>1</td>
</tr>
<tr>
<td>P E 250, Intermediate Golf</td>
<td>1</td>
</tr>
<tr>
<td>SOIL 312, Soil Management and Fertility</td>
<td>1</td>
</tr>
<tr>
<td>SOIL 350, Soils and Land Use</td>
<td>3</td>
</tr>
<tr>
<td>SOIL 424, Soil Chemistry</td>
<td>3</td>
</tr>
</tbody>
</table>

**Business**

Select 6 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG E 236, Agribusiness Management Principles</td>
<td>3</td>
</tr>
<tr>
<td>BLAW 313, Sports Law</td>
<td>3</td>
</tr>
<tr>
<td>ECON 337V, Natural Resource Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 384V, Water Resource Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 406, The Economics of Sports</td>
<td>3</td>
</tr>
<tr>
<td>FIN 206, Introduction to Finance; or FIN 341, Financial Analysis and Markets</td>
<td>3</td>
</tr>
<tr>
<td>MGT 315V, Human Relations is Organizations; or MGT 309, Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 332, Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 454, Sports Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 491, Sports Marketing Management</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 212, Intermediate Spanish II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technical**

Select 3 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A EN 372, Landscape Irrigation Design</td>
<td>3</td>
</tr>
<tr>
<td>AXED 303, Small Engine Technology</td>
<td>3</td>
</tr>
<tr>
<td>E T 106, Drafting Concepts/Computer Drawing Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>DEPB 100, Basic Plumbing Materials and Systems</td>
<td></td>
</tr>
</tbody>
</table>

**OPTION: Golf Course Management**

**Business**

Select 6 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG E 236, Agribusiness Management Principles</td>
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<td>3</td>
</tr>
<tr>
<td>FIN 206, Introduction to Finance; or FIN 341, Financial Analysis and Markets</td>
<td>3</td>
</tr>
<tr>
<td>MGT 315V, Human Relations is Organizations; or MGT 309, Human Resources in Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 332, Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 454, Sports Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 491, Sports Marketing Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Science**

Select 6 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 211, Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 303, Economic Entomology</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 310, Plant Pathology</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 420, Environmental Fate Pesticides</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 455, Advanced Integrated Pest Management</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 456, Biological Control</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technical**

Select 3 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A EN 372, Landscape Irrigation Design</td>
<td>3</td>
</tr>
</tbody>
</table>
Basic Science Background

BIOL 111G, Natural History of Life ......................................................... 3
BIOL 211G, Cellular and Organismal Biology ........................................ 3
BIOL 311, General Microbiology ............................................................ 3
C E 151, Introduction to Civil Engineering ................................................. 3
CHEM 111G, CHEM 112G, General Chemistry I, II ............................... 8
CHEM 211, Organic Chemistry ............................................................... 4
E S 311G, Statistical Applications .......................................................... 3
GEOL 111G, Survey of Geology ............................................................... 4
PHYS 215G, Engineering Physics I .......................................................... 3
SOIL 292, Soils ....................................................................................... 3
SOIL 292 L, Soils Laboratory .................................................................... 1

Environmental Science Core

E S 110G, Introduction to Environmental Science .................................... 4
E S 296, Environmental Science .............................................................. 3
E S 301, Principles of Ecology .................................................................. 3
E S 312, Emergency Response to Hazardous Material Incidents ........... 2
E S 330, Environmental Management Seminar I ...................................... 1
E S 361, Basic Toxicology ......................................................................... 3
E S 370, Environmental Soil Science ........................................................ 3
E S 391, Internship .................................................................................. 3
E S 422, Environmental Chemistry .......................................................... 3
E S 430, Environmental Management Seminar II .................................... 1
E S 450, Epidemiology ............................................................................. 3
E S 452, Geohydrology ............................................................................ 3
E S 454, Environmental Health .............................................................. 3
E S 455, Occupational Health ................................................................. 3
E S 458, Ecology of Inland Waters ............................................................ 3
E S 462, Sampling and Analysis of Environmental Contaminants ........ 3
E S 470, Environmental Impacts of Land Use .......................................... 5

DEGREE: Bachelor of Science in Environmental Science

MAJOR: Environmental Science

The environmental science major is a multidisciplinary program based on a strong general science curriculum and an environmental curriculum that focuses on environmental problems and solutions. Although administered by the Department of Plant and Environmental Sciences, a multidisciplinary advisory committee recommends curriculum and other changes to the program. Graduates are very competitive for careers in industry and government and have excellent preparation for graduate programs in a variety of fields. A grade of C must be earned in the Basic Background and Core Requirements. The program is accredited by The Association of Environmental Health Academic Programs.

Basic Science Background

BIOL 111G, Natural History of Life ......................................................... 3
BIOL 211G, Cellular and Organismal Biology ........................................ 3
BIOL 311, General Microbiology ............................................................ 3
C E 151, Introduction to Civil Engineering ................................................. 3
CHEM 111G, CHEM 112G, General Chemistry I, II ............................... 8
CHEM 211, Organic Chemistry ............................................................... 4
E S 311G, Statistical Applications .......................................................... 3
GEOL 111G, Survey of Geology ............................................................... 4
PHYS 215G, Engineering Physics I .......................................................... 3
SOIL 292, Soils ....................................................................................... 3
SOIL 292 L, Soils Laboratory .................................................................... 1

Environmental Science Core

E S 110G, Introduction to Environmental Science .................................... 4
E S 296, Environmental Science .............................................................. 3
E S 301, Principles of Ecology .................................................................. 3
E S 312, Emergency Response to Hazardous Material Incidents ........... 2
E S 330, Environmental Management Seminar I ...................................... 1
E S 361, Basic Toxicology ......................................................................... 3
E S 370, Environmental Soil Science ........................................................ 3
E S 391, Internship .................................................................................. 3
E S 422, Environmental Chemistry .......................................................... 3
E S 430, Environmental Management Seminar II .................................... 1
E S 450, Epidemiology ............................................................................. 3
E S 452, Geohydrology ............................................................................ 3
E S 454, Environmental Health .............................................................. 3
E S 455, Occupational Health ................................................................. 3
E S 458, Ecology of Inland Waters ............................................................ 3
E S 462, Sampling and Analysis of Environmental Contaminants ........ 3
E S 470, Environmental Impacts of Land Use .......................................... 5

DEGREE: Bachelor of Science in Environmental Science

MAJOR: Genetics

Co-directors of the Program:
Greg Mullins, Ph.D., department head, Plant and Environmental Sciences
Marvin Bernstein, Ph.D., department head, Biology

Program Participants:
Professors: Bernstein, Bosland, Cramer, Houde, Milligan, O’Connell, Sengupta-Gopalan, Ray; Associate Professors: Nishiguchi, Schuster, St. Hilaire, Zhang;
Assistant Professors: Bailey, Schuster, Curtiss, Dawe

Have you ever wondered why your hair or eye color, facial features, or the build of your body resembles that of your parents, grandparents, or other close relatives? What factors are responsible for generating all the variety of colors and shapes of flowers, trees, and different types of animals? If these questions have crossed your mind, then you have been thinking about Genetics; the science of heredity. Genetics is studied at the DNA/gene/genome level (molecular genetics, biotechnology, genomics and bioinformatics), the level of organisms (classical or Mendelian genetics), and within/among populations of individuals
(population and quantitative genetics). One of the most significant scientific accomplishments in history has been the use of genomic technologies to recently identify most human genes, as well as, most genes for a number of other animals, plants, fungi, and bacteria. Geneticists now have tremendous opportunities to use molecular, biochemical, mathematical, and computer science-based (bioinformatics) approaches to investigate how these genes determine observable traits. This information can be used to significantly advance human health and well being, and to meet the food and fiber needs of the world.

A degree in Genetics can provide excellent preparation for careers in academic research and technical support, teaching, agriculture, the biotechnology industry, medicine and health sciences, forensic science, technical writing, and sales or marketing. It is also an excellent background for students wishing to enter a graduate program, medical school, and veterinary school.

Undergraduates in the Genetics program must earn a grade of C or better to receive credit for required Basic Science Background and Genetics Core courses. Within the Genetics Core curriculum, Tier I courses must be taken by all majors, for a total of 28 credit hours. To accommodate differing interests among students, a series of Tier II courses comprising 11 to 13 credits are provided. Ethical considerations of genetic based technologies will be infused throughout the curriculum, with a focused course on “Science and Ethics” in the Tier III portion of the core curriculum.

**DEGREE REQUIREMENTS**

**General Education Requirements (42 credits)**

**AREA I: COMMUNICATIONS**

English Composition-Level 1: ENGL 111G, ENGL 111H, or SPCD111G .......... 4

English Composition-Level 2: ENGL 219G or ENGL 319G .................. 3

Oral Communication: AXED 201, COMM 253G, COMM 256G, or HON 265G ...... 3

**AREA II: MATHEMATICS/ALGEBRA**

MATH 191G .......................................................... 3

**AREA III: LABORATORY SCIENCE**

CHEM 111G/111L and CHEM 112G/112L ........................................... 8

**AREA IV: SOCIAL/BEHAVIORAL SCIENCES** 6-9*

**AREA V: HUMANITIES AND FINE ARTS** 6-9*

NMSU VIEWING A WIDER WORLD (see catalog for listing of courses) ... 6

*Total of 15 credits combined between Areas IV and V, with 6 credits in one area and 9 credits in the other area. See catalog for listing of available courses.

**Basic Science Background Requirements (40 credits)**

BIOL 111G, Natural History of Life .................................................. 3

CHEM 111G/112G, General Chemistry I, II .................................... 8

CHEM 313/314, Organic Chemistry I, II ......................................... 6

CHEM 315, Organic Chemistry Laboratory ..................................... 2

BCHE 395, Biochemistry ............................................................... 3

BCHE 396, Biochemistry and Biotechnology .............................. 3

MATH 191G/L and 192/L, Calculus and Analytic Geometry I, II and Labs ...... 6

E ST 311G, Statistical Applications ................................................ 3

PHYS 211G/212 General Physics I, II or PHYS 221G/222G General Physics for Life Sciences I, II .................................................. 3

**Core Requirements (42-44 credits from Tier I, II, and III courses)**

**Tier I courses (all are required):**

GENE 110, Experimental Systems in Genetics ................................. 1

BIOL 211 and 211L, Cell and Organismal Biology and Laboratory ....... 4

GENE 305L, Genetic Techniques Laboratory .................................. 1

BIOL 311/311L, General Microbiology and Laboratory .................. 5

GENE 315, Molecular Genetics ...................................................... 3

GENE 320, Heredity and Population Genetics .................................. 3

BIOL 377, Cell Biology ................................................................. 3

GENE 440, Genetics Seminar ........................................................ 1

GENE 452, Applied Bioinformatics or MOLB 470, Bioinformatics & Genome Analysis .......................................................... 3

BCHE 494, Techniques in Genetic Engineering ............................. 4

**Tier II courses (choose one course from each of the following four areas):**

**Selection response:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRO 462, Plant Breeding</td>
<td>3</td>
</tr>
<tr>
<td>ANSC 423, Animal Breeding</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 467, Evolution</td>
<td>3</td>
</tr>
</tbody>
</table>

**Physiology:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSC 421, Physiology of Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 354, Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 381, Animal Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 385, Introduction to Cancer</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 451, Physiology of Microorganisms</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 474, Immunology</td>
<td>3</td>
</tr>
<tr>
<td>EPWS 314, Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HORT 471, Plant Mineral Nutrition</td>
<td>3</td>
</tr>
</tbody>
</table>

**Organism structure:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSC 370, Anatomy and Physiology of Farm Animals</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 313, Structure and Function of Plants</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 322, Zoology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 330, Comparative Anatomy and Embryology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 470, Developmental Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 465, Invertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>EPWS 303, Economic Entomology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Molecular Genetics:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 475, Virology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 478, Molecular Biology of Microorganisms</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 482, Microbial Systems</td>
<td>3</td>
</tr>
<tr>
<td>GENE 486, Genes and Genomes</td>
<td>3</td>
</tr>
<tr>
<td>GENE 488, Gene Regulation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Tier III courses (Choose one science and ethics course from the following):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRO 303V, Genetics and Society</td>
<td>3</td>
</tr>
<tr>
<td>AGRO 313, Genetics and Society</td>
<td>3</td>
</tr>
<tr>
<td>HON 306V, Science, Ethics, and Society</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 321, Biomedical Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional courses**

Electives to bring total to 128 credits including 48 upper division credits.

**Recommended Electives**

**Honors College:**

Nine credits from:


Six credits from:

HON 306V, Science, Ethics, & Society; HON 314, Successful Fellowship Writing; HON 322V, Science and Public Policy; HON 410, Honors Internship; HON 420, Independent Studies; HON 421, Special Topics.

Three credits:

HON 400, Honors Thesis.

**Bioinformatics:**

Students may pursue a minor in Bioinformatics after consulting with an advisor in the Computer Science Department. There are 19 credits of coursework required for this minor which involve: CS 171, CS 272, CS 370 or 371, and CS 486.
SCHOOL OF HOTEL, RESTAURANT and TOURISM MANAGEMENT

Janet L. Green, Director

Professors: Bloomquist; Associate Professors: Blanch, Mandabach; Assistant Professor: Stringham; College Assistant Professors: Albin, D. Bloomquist, Hartley, Zeck; Instructor: Linderman

(575) 646-5995

DEGREE: Bachelor of Science in Hotel, Restaurant and Tourism Management

MAJOR: Hotel, Restaurant and Tourism Management

MINOR: Hotel, Restaurant and Tourism Management

MINOR: Culinary Science

The mission of the School of Hotel, Restaurant and Tourism Management is to serve the needs of our constituents through innovative teaching, research, professional applications, and partnerships in a multicultural and international environment.

This bachelor’s degree program prepares you for supervisory and entry-level management positions in all areas of the diverse and growing hospitality and tourism industry. The program also provides a foundation for your continuing development to advance to more senior management or to pursue entrepreneurial opportunities. In this professional program, faculty, students, and industry partners bring together theory and practice to forge hospitality management excellence. The curriculum is designed to educate students as individuals and professionals in a changing society. You will take a core curriculum until your senior year, when you may specialize in one of the three concentration areas listed, or develop an individual plan with your faculty advisor for selecting your professional elective courses. A grade of C or better must be earned in each upper-division HRTM class to satisfy the requirement of the major.

You are required to participate in an internship program that is offered only after completion of 400 hours of hospitality work experience (practicum). The HRTM 307, 408, and 409 internship sequence, which includes another 400 hours in the field, must be completed prior to enrolling in other 400-level courses. Thus, at the end of both the work experience practicum and the internship, you will have completed a minimum of 800 hours professional work experience in the field.

Hotel, Restaurant and Tourism Management Core Courses

General Education Requirements (36 credits)

A list of specific general education requirements is available in the department. Please check with your advisor.

Departmental Requirements (42 credits)

HRTM 201, Introduction to Tourism ................................................................. 3
HRTM 211, Introduction to Hospitality Management........................................ 3
HRTM 231, Safety, Sanitation/Health in the Hospitality Industry ...................... 2
HRTM 263, Food Production and Service Fundamentals ............................... 3 (1-4P)
HRTM 301, Hotel, Restaurant and Tourism Marketing .................................. 3
HRTM 302, Hospitality Management Accounting .......................................... 3
HRTM 304, Hospitality and Travel Law ............................................................ 3
HRTM 307, Professional Development ............................................................ 1
HRTM 311, Hospitality Leadership Management ........................................... 3
HRTM 321, Hotel Operations I ......................................................................... 3
HRTM 363, Quality Food Production and Service ........................................... 4
HRTM 408, Hospitality Internship .................................................................. 1
HRTM 409, Internship Seminar ...................................................................... 1
HRTM 410, Hospitality Cost Control ............................................................... 3
HRTM 430, Hospitality Facilities Management ................................................ 3
HRTM 434, Senior Capstone (complete during final semester) ....................... 3

Nondepartmental Requirements (23 credits)

ECON 201G, Intro to Economics or ECON 251G and ECON 252G .......... 3
SPAN 111, Elementary Spanish I ................................................................. 4
ACCT 252, Financial Accounting ................................................................. 3
FIN 341, Financial Analysis and Markets ....................................................... 3
Any MKTG #300 and above ........................................................................ 3
E ST 311G, Experimental Statistics (students with Math 115, Intermediate Algebra, may substitute STAT 251G, Statistics for Business and Behavioral Sciences) .................................................. 3
MGT 303, Human Behavior in Organizations ................................................ 3
MGT 322, Human Resources Management .................................................. 3

Departmental Electives (9 credits)

You may choose 9 credits from the interest area groups listed below, or in consultation with your advisor, you may combine them in any way that accommodates your special interest.

• Hotel Management*

The hotel/resort operations area addresses specific concepts, practices, and issues in hotel, resort, bed and breakfast, conference and contract lodging facilities management and ownership.

HRTM 404, Gaming Operations .......................................................................3
HRTM 412, Beverage Management ............................................................... 3
HRTM 413, Restaurant Operations Management .......................................... 4
HRTM 423, Hospitality and Tourism Research and Applications ................... 3
HRTM 431, Hotel Operations II ...................................................................... 3
HRTM 432, Hotel Revenue and Sales Management ........................................ 3
HRTM 433, Training for Hospitality Operations ............................................. 3
HRTM 443, Hotel Meetings, Conventions and Special Events ..................... 3

• Restaurant and Food Service Management*

The restaurant and food service management areas address specific concepts, practices, and issues in restaurant, banquet, catering, and contract food service management and ownership.

HRTM 404, Gaming Operations .......................................................................3
HRTM 412, Beverage Management ............................................................... 3
HRTM 413, Restaurant Operations Management .......................................... 4
HRTM 414, International Food and Wine ....................................................... 3
HRTM 423, Hospitality and Tourism Research and Applications ................... 3
HRTM 433, Training for Hospitality Operations ............................................. 3
HRTM 443, Meetings, Conventions and Special Events ................................ 3

Other HRTM Electives

HRTM 310, Colloquium (repeat up to 2 times) ............................................ 1-2
HRTM 420, Club Management and Marketing ............................................. 3

• Open Electives

Sixteen hours of free electives are available to meet your goals.

*Plus a sufficient number of electives to ensure a minimum of 128 semester credits, some of which must be in courses at the 300 level or above to meet the university requirement of 48 credits at this level. These elective courses are designed to provide you with an opportunity to learn about or possibly minor in another field of study. This selection may depend on your professional career choices and interest in the specific hospitality area itself. Course requirements for minors in other areas differ; therefore, it is necessary for you to consult with your advisor.

MINOR: Hotel, Restaurant and Tourism Management

A minor in Hotel, Restaurant and Tourism management is available. The minor requires a minimum of 18 credits of which at least 9 hours must be at the 300 level or higher. Specific coursework requirements apply. See advisor for course requirements and scheduling.

MINOR: Culinary Science

A minor in Culinary Science is available. The minor requires a minimum of 18 credits of which a minimum of 9 hours must be at the 300 level or higher. Specific coursework requirements apply. A student may earn a bachelor’s degree in Hotel, Restaurant and Tourism Management or Human Nutrition and Food Science and a minor in Culinary Science. See an advisor for course requirements and scheduling.
COLLEGE of ARTS and SCIENCES

Dean • Pamela Jansma
Associate Dean (Research) • Robert Czerniak
Associate Dean (Academic Affairs) • Peter Gregware
Associate Dean (First Year Scholars) • Walter Zakahi
Director, Student Center • Edward Rodriguez
Program Coordinator, Retention and Pre Health Professions Advisor • Jodie Kenney
Advising Coordinator • Rebecca Diemer
Advisor, First Year Scholars • Timothy E. Nelson
Student Records • Hilda M. Olivas

Bachelor of Arts—Majors in Anthropology, Art, Biology, Chemistry, Communication Studies, Computer Science, Economics, English, Foreign Languages, Government, History, Journalism and Mass Communications, Philosophy, Physics, Psychology, Sociology, Theatre Arts, Women’s Studies
Bachelor of Science—Majors in Biology, Biochemistry, Chemistry, City and Regional Planning, Computer Science, Geography, Geology, Mathematics, Microbiology, Physics
Designated Bachelor’s Degree—in Conservation Ecology, Creative Media, Criminal Justice, Fine Arts, Genetics, Music, Music Education

Programs offered in the College of Arts and Sciences prepare students for a variety of career opportunities and for graduate study. The broad curriculum offered provides both the motivation and the tools for lifelong learning experiences.

While the ultimate responsibility for planning an academic program in compliance with university, college, and departmental requirements rests with the student, the college recognizes the importance of helping students work out appropriate academic programs. Some majors and all unclassified arts and sciences students are advised on academic matters in the college advising center, which is located in the west wing of Breland Hall. In addition, all students are encouraged to contact departments for specific subject area information and career planning.

Students with 36 or more credits who have declared a major are advised in the appropriate departments.

Students should consult the University section of the catalog regarding general limitations for total credit hours, independent study, and registration under S/U option. Students in the College of Arts and Sciences on academic Probation 1 are limited to 13 credit hours, and students on Probation 2 are limited to 7 credit hours. The University section of the catalog discusses registration and withdrawal deadlines. Students may not do additional course work or repeat course exercises after the semester has ended in order to raise a grade in any Arts and Sciences course. Exceptions would be made for students completing official incompletes.

COLLEGE DEGREE REQUIREMENTS

Students must meet the following degree requirements:
1. Basic Academic Skills requirements in English and mathematics. See “Basic Academic Skills” in the “General Information” chapter earlier in this catalog.
2. University graduation requirements. See “Graduation Requirements” in the “General Information” chapter earlier in this catalog. Students must pass university General Education requirements and earn a minimum of 128 university level credits of which at least 48 must be upper division.
3. Some departments in the college require a second language and some do not. For those students whose major requires a second language, the following parameters apply unless otherwise specified in their departmental requirements. A student must meet one of the following requirements:
   • Complete the normal foreign language course sequence: 111, 112, 211, 212. Students should enter the sequence at their proficiency level. Spanish speakers should complete the 113-213-214 sequence. Students who successfully complete either SPAN 113 or 213 or 214 (or all) may not take SPAN 111, 112, 211 or 212 for credit.
   • Challenge the 212 level of French, German, Japanese, Latin, Portuguese, Russian or Spanish, or the 214 level for the Spanish-speaking student.
   • Obtain college certification of completion of two or three years of a second language at the high school level with a grade of C or higher in the last year level. (i.e., equivalent to French 211, German 211, Spanish 211, etc.)
   • Obtain, from the head of the Department of Languages and Linguistics, certification of a working knowledge of a second language if such language is not taught at New Mexico State University.
   • Obtain certification of a working knowledge of a native American language from the American Indian program director.
   • Successfully complete a regular university course taught in a language other than English. A student can receive credit only once for the same course taught in two languages.
   • Pass a three-credit upper-division course (numbered 300 or above) taught in a foreign language by the Department of Languages and Linguistics.
   • Pass C D 476, America Sign Language III with a grade of C or better.
   • In the case of a foreign student who is required to take the TOEFL exam, the dean will automatically waive the foreign language requirement.

Students should satisfy the language requirement as soon as possible and take the necessary courses in consecutive semesters.

S/U Grading Option
Instructors may establish individual standards for an S grade, but the minimum standard for an S grade in College of Arts and Sciences courses is a C.

Developmental and Applied Credit Limitations
The College of Arts and Sciences may accept up to 9 credits toward graduation of applied coursework, which include Occupational Education courses, BOT, CMT, UNIV (not including UNIV 150 and UNIV 350), ART (applied), DANC (applied), MUS (applied and participation), THTR (applied), NURS, A EN, AXED, AG I, AGME, COLL, CCDL, CCDS, all lower-division RDG. Credits earned in developmental courses (N suffix) are not counted toward any arts and sciences.

Accreditation
In the College of Arts and Sciences, the Department of Chemistry and Biochemistry is accredited by the American Chemical Society. The Journalism and Mass Communications program is nationally accredited by the Accrediting Council for Education in Journalism and Mass Communications (ACEJMC). Music curricula in the Department of Music are accredited by the National Association of Schools of Music. The master of public administration program in the Department of Government is accredited by the National Association of Schools of Public Affairs and Administration.
degree. Students should contact the dean's office regarding the acceptability of specific courses.

In addition to the above limitation, the college will also accept a maximum of 9 credits towards graduation of applied P and PE courses, and ANSC 190, 191, 290, 291, 380, and 381. This restriction does not apply to PE P 185, 280, 281, 285, 286G, 295, 309, 311, 320, 341, 342, and 411.

Independent Study Courses
Students are limited to six credits in any independent study course. Independent study courses include directed reading and special topic courses, which do not carry a subtitle.

Distance Education Courses
The College of Arts and Sciences offers a variety of distance education courses each semester. Specific courses can be found under departmental course listings and the Distance Education section of the Schedule of Classes. Students who successfully complete NMSU distance education courses receive the same credit as students who take an equivalent course on the Las Cruces campus. Distance education courses appear on a student's transcript in the same way as does a course taken on the Las Cruces campus.

Majors, Minors and Supplementary Majors
Students who wish to obtain a bachelor's degree must select a major field or fields. For a listing of major fields, the student should see the first page of this chapter. Course requirements for majors are listed under individual departments. Students should consult the department for current admissions requirements. Until a major is selected, the student is designated as unclassified.

Each major consists of not less than 20 credits of upper-division courses (300 and above) in a specific field. Students must earn a grade of C or better for all course requirements for a major, minor, or supplementary major, including any courses required from outside the department. Students may not count any course towards completion of any major, minor, or supplementary major requirement unless a course is automatically S/U for all enrolled students. A student may not earn a minor that bears the same name as a bachelor's degree that the student also earns. (For example, a student earning a B.S. in Biology cannot also earn a minor in Biology.) Some departments also require specific courses outside the major field. Please refer to the departmental section of the catalog for specific nondepartmental requirements. These nondepartmental requirements must be passed with a grade of C or better. It is imperative that students consult the departmental sections of this catalog and the concerned department or departments for advice in planning to fulfill requirements for declared majors.

The requirements for academic minors in the College of Arts and Sciences are found under each offering department or program's section of this catalog. Requirements for supplementary majors are found as follows: the Supplementary Majors in Chicano Studies, Latin American Studies, and Linguistics are listed under Languages and Linguistics; the Supplementary Major in Law and Society is listed under Government; and the Supplementary Major in Applied Mathematics is listed under Mathematical Sciences.

Most students have considerable latitude in choosing elective courses. These are the courses beyond college and major requirements that a student must take to bring her or his total credits to 128. This latitude provides students with opportunities to major in more than one field or to devise interdisciplinary programs tailored to individual interests or future career needs.

Regardless of the option elected, students should consult regularly with an advisor and keep track of their progress towards graduation using the online degree audit system STAR (Student Academic Requirements), at http://www.my.nmsu.edu.

SUPPLEMENTARY MAJORS

Applied Mathematics
Committee: Caroline Sweezy, Ph.D., Mathematics, Advisor; John Harding, Ph.D., Mathematics; Heng Leung, Ph.D., Computer Science; Ronald J. Pederson, Ph.D., Mechanical Engineering; Krist Petersen, Ph.D., Electrical and Computer Engineering; Tony Wang, Ph.D., Mathematics

The Department of Mathematical Sciences coordinates a supplementary major in applied mathematics that may be taken in addition to a regular major in any college. This program is designed to provide a multi-disciplinary education in the applications of mathematics for undergraduates intending to go to graduate school or who are interested in entering professions that require a strong background in applied mathematics, such as engineering, physical science and economics. Please refer to the entry under the Department of Mathematical Sciences.

Chicano Studies
Committee: Laura Gutiérrez Spencer, Ph.D., Chicano Programs, Spencer Herrera, Ph.D., Languages and Linguistics (Advisor), Eric Lopez, Ph.D., Special Education and Communication Disorders, Alison Newby, Ph.D., Sociology and Anthropology, Monica Torres, Ph.D., English, Ivan de la Rosa, Ph.D., Social Work, Loretta Salas, Special Education and Communication Disorders, Daniel Villa, Ph.D., Spencer Herrera, Ph.D., Languages and Linguistics (Advisor)

The supplementary major in Chicano Studies is an important interdisciplinary addition to the undergraduate preparation offered in several areas of the social sciences and humanities. Students completing traditional majors in such fields as social work, economics, sociology and anthropology, history, government, theatre arts, art, English, languages and linguistics, nursing, mass communications, and criminal justice should consider the possibility of completing a supplementary major in Chicano Studies. This is due to the close relationship among the fields and in light of the need professionals have to deal with the cultural background of the Mexican American/Chicano inhabitants of the state, the Southwest United States, and population centers throughout the nation where Mexican American/Chicano culture is a contemporary reality. For a full description of the supplementary major in Chicano Studies and information on specific requirements of the major, please refer to the entry under the Department of Languages and Linguistics.

Latin American Studies
Committee: José Z. García, Ph.D., Government; Beth Pollack, Ph.D., Languages and Linguistics (Advisor); M. Lois Stanford, Ph.D., Sociology and Anthropology; Elizabeth Zarur, Ph.D., Art

The supplementary major in Latin American Studies is an important interdisciplinary addition to the undergraduate preparation offered in several areas of the humanities and social sciences. Students completing traditional majors in such fields as Spanish, history, government, art, sociology and anthropology, linguistics, business, economics, health science, and mass communications, as well as students from other majors, should consider the possibility of completing a supplementary major in Latin American Studies. Due to New Mexico's strategic geographical position and the growing cultural and economic importance of Latin America, it will be advantageous for any professional in the areas mentioned above to have a solid background in the field. For a full description of the course offerings in Latin American Studies and information on specific requirements of the major, please refer to the entry under the Department of Languages and Linguistics.

Law and Society
Committee: Nancy Baker, Ph.D., Government; Lisa Bond-Maupin, Ph.D., Criminal Justice; Jeff Brown, History; Greg Butler, Ph.D., Government; William Corbett, Criminal Justice; Danny Scoccia, Ph.D., Philosophy; Kim Seckler, J.D. (Advisor), Government; Russell Winn, D.P.A., Government

Students interested in studying the American legal system and issues in law and society may choose to pursue a supplemental major in Law and Society, sponsored by the Department of Government. The multidisciplinary Law and Society program is designed to prepare students interested in the law by developing critical thinking skills, introducing methods and concepts involved in the study of law, and providing a context for understanding law in modern society. For a description of and information on specific requirements of the major, refer to the entry under "Government" later in this chapter. Additional information is also available from the Department of Government.

Linguistics
Committee: Patricia MacGregor-Mendoza, Ph.D., Languages and Linguistics (Advisor); David Farwell, Ph.D., Computer Research Laboratory; Peter Foltz, Ph.D., Psychology; Scott Rushforth, Ph.D., Sociology and Anthropology

The supplementary major in Linguistics is a program whose offerings bridge two colleges and several departments. This interdisciplinary concentration offers an important supplement to the undergraduate preparation offered in several areas of the social sciences, humanities and education. Students completing traditional majors in fields that focus on understanding human nature such as communication studies, social work, sociology and anthropology, government, history, English, French, German, Spanish, journalism and mass communications, philosophy, psychology, early childhood education, elementary education, secondary education, bilingual education, TESOL, special education
and communication disorders should consider completing a supplementary major in linguistics to heighten their awareness of the important role language plays in human interaction on individual and global levels. Moreover, in this day of digital text and communication, computer science majors may also benefit from a greater understanding of linguistics. For a full description of the supplementary major in linguistics and information on specific requirements of the program, please refer to the entry under the Department of Languages and Linguistics.

**Sustainable Development**

*Committee*: Los Stanford, Ph.D., Sociology and Anthropology; Chris Brown, Ph.D., Geography, Martha Desmond, Ph.D., Fishery and Wildlife Sciences; Connie Falk, Ph.D., Agricultural Economics and Agricultural Business; Neil Harvey, Ph.D., Government; James Rice, Sociology

The supplementary major in Sustainable Development comprises an interdisciplinary supplementary major through which students develop a deeper understanding of the relations between humans and the natural environment. The program offers students the opportunity to cross disciplines and construct a coherent interdisciplinary program that focuses on human interactions with the natural environment, society’s role in depleting and transforming natural resources, critical issues in sustainable development, and new strategies for conserving natural resources and sustainable agricultural production. NMSU occupies a unique strategic position as a land grant institution in a multi-cultural regional setting, combined with its geographic location on a binational border. Students in different programs can use the supplementary major in sustainable development to enhance their undergraduate degrees and prepare themselves professionally to seek careers and graduate degrees in sustainable and international development. For a full description of the major, please refer to the entry under the Department of Sociology and Anthropology.

**PREPROFESSIONAL STUDIES**

**Prehealth Studies**

*Health Professions Advisory Committee*: Jodie Kenney, Chair, Ed. D.; Robert L. Armstrong, Ph.D., Physics; Brenda R. Benefit, Ph.D., Anthropology; Peter Gregware, Ph.D., Associate Dean, Arts and Sciences; Mary Hoke, Ph.D., Nursing; Wolfgang Mueller, Ph. D., Chemistry and Biochemistry; Stephen Pate, Ph.D., Physics; Daniel Scoccia, Ph.D., Philosophy; Elba Serrano, Ph.D., Biology

Students planning to attend medical, osteopathic, or dental schools may major in any discipline. Biology, chemistry, biochemistry, and physics are common majors for students entering the health professions, and these fields are emphasized on medical entrance examinations like the MCAT or DAT. Summary statistics from national surveys of students taking medical entrance examinations show that majors in the social sciences and humanities score as well as science majors, so long as the minimal science requirements are met. Consequently, students should not be discouraged from pursuing a field of study outside traditional premedical curriculum. Most professional schools require chemistry, 16 credits; biology, 8-16 credits; calculus, 6 credits; and physics, 8 credits. Students planning to attend chiropractic, physical therapy, or pharmacy school may also choose to complete the preprofessional course requirements at NMSU and then transfer to the appropriate school for advanced study. The Student Center can provide information about the area graduate programs at such institutions as Texas Tech, University of Texas at El Paso and the University of New Mexico. Students interested in public health should contact the College of Health and Social Services about that school’s excellent MPH program.

Selection to professional schools is typically based on four separate but interrelated criteria: (1) evaluation of academic transcripts, (2) evaluation of scores on admissions tests, (3) letters of recommendation, and (4) personal interviews. Students interested in careers in the health profession are encouraged to enroll in a S 335, Prehealth Internship, in their junior or senior year and pursue volunteer community service activities. The Health Professions Advisory Committee works with all prospective applicants to professional school to provide advice and information on the admissions process and to ensure that all prehealth students have the best possible opportunity of gaining admission to the school of their choice. Each student is expected to register with the Prehealth Professions Office no later than the sophomore year. Registration may be accomplished in the Student Center, College of Arts and Sciences. In addition, there is a chartered student organization for students entering the health professions.

**Prelaw Studies**

*Committee*: Nancy Baker, Ph.D., Government; Lisa Bond-Maupin, Ph.D., Criminal Justice; Jeff Brown, History; Greg Butler, Ph.D., Government; William Corbett, Criminal Justice; Danny Scoccia, Ph.D., Philosophy; Kim Seckler, J.D. (Chair), Government; Russell Winn, D.P.A., Government

Though most law schools require a bachelor’s degree as a prerequisite for admission, few require specific undergraduate courses or majors. An undergraduate liberal arts program is an excellent background for law school. Students interested in attending law school may choose to pursue a supplemental major in law and society, a course of study coordinated by the Department of Government. The program provides students with a foundation in the American legal system, constitutional law, and judicial process. The program also offers classes in critical thinking, communications skills, and legal policy issues—courses key to effective law school preparation.

Admission to law school generally is based on three separate but interrelated criteria: evaluation of academic transcripts, evaluation of score on the Law School Admissions Test (LSAT), and letters of recommendation. In addition, some law schools will use personal interviews or essays in the admission process. Prospective law students are advised to take the LSAT early in their senior year. The Department of Government offers a workshop on taking the LSAT and mock LSAT exams on an occasional basis.

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**AEROSPACE STUDIES**

**Lieutenant Colonel Stephen Groll, department head**

**Assistant Professors**

Captain Helmick, Captain Myers

(575) 646-2136

The college Air Force Reserve Officer Training Program curriculum provides pre-professional preparation for future Air Force officers. It is designed to motivate and prepare college men and women for their initial active duty assignments as Air Force commissioned officers. The curriculum is designed to give the participating student an understanding of the military instrument of national power with emphasis on the United States Air Force and how it fits into American society. Inherent in course content and methodology are opportunities for the student to develop his or her capacities to think creatively, speak and write effectively, and to lead and manage efficiently.

The Air Force ROTC Commissioning Program is open to all qualified male and female students in all academic majors leading to a bachelor’s degree as well as any student who has three years remaining at the university, including graduate study. Students with less than three years remaining may meet program entry requirements on a case by case basis. The program is divided into the General Military Course and the Professional Officer Course.

**Freshman and Sophomore Years (General Military Course or GMC)**

This group (AERO 121, AERO 122, AERO 221, AERO 222) provides a general background knowledge of the military establishment with emphasis on the Air Force. GMC courses may be taken out of sequence.

**Junior and Senior Years (Professional Officer Course or POC)**

This group (AERO 301, AERO 302, AERO 401, AERO 402) constitutes an in-depth study of topics that provides a broad preparation for a career as an Air Force officer. Students must have certain qualifications for entry and have a desire to be commissioned in the Air Force. These qualifications include, achieving a passing score on the Air Force Officer’s Qualifying Test, passing a physical fitness test, and successfully completing a medical exam. They must also complete a four- or five-week summer orientation course.

Students may, with departmental approval, take POC courses out of normal sequence. However, compressed or dual enrollment in upper-division POC courses is normally prohibited. Through this department, you can also earn a minor in Aerospace Studies.

**MINOR: Aerospace Studies**

AERO 301, Air Force Leadership and Management I ........................................ 4
AERO 302, Air Force Leadership and Management II ..................................... 4
AERO 401, Preparation for Active Duty I ..................................................... 4
AERO 402, Preparation for Active Duty II .................................................... 4
Six credits from among: HIST 312, Modern Latin America; HIST 341, American Military History; HIST 317, U.S. Foreign Relations to 1919; HIST 422, U.S. Foreign Relations since 1914; HIST 423, History of United States Intelligence; HIST 440, World War I; HIST 447, World War II; GOVT 360, International Relations; GOVT 443, Congress and the Legislative Process; GOVT 444, The American Presidency; GOVT 464, National Security Policy; GOVT 486, American Foreign Policy; GOVT 473, Latin American Politics; GOVT 474, European Politics; GOVT 491, Constitutional Law; MGT 319V, Human Relations in Organizations; MGT 332, Training and Development; MGT 347, Management Functions and Processes; MGT 388V, Leadership and Society; MGT 453, Leadership and Motivation; MSC310, Leading Small Organizations I; MSC 320, Leading Small Organizations II; MSC 401, Leadership Challenges and Goal Setting and/or MSC 402, Transitions to Lieutenant ..........................6

ART

Spencer Fidler, department head
Professors Fidler, Jaffe; Associate Professors Barello, Green, St. Aubyn, Stevens, D. Taylor, Zarur; Assistant Professors Fine, S. Taylor, Cully; College Assistant Professors Cole-Dorn, Fd kms; Emeritus Ocepek, Rose

(575) 646-1705; e-mail: artdept@nmsu.edu

DEGREE: Bachelor of Arts
MAJOR: Art
EMPHASIS: Studio Art
EMPHASIS: Art History
EMPHASIS: Museum Conservation

DEGREE: Bachelor of Fine Arts
MAJOR: Art
EMPHASIS: Ceramics
EMPHASIS: Drawing
EMPHASIS: Graphic Design
EMPHASIS: Metalsmithing and Jewelry
EMPHASIS: Painting
EMPHASIS: Photo/Graphics
EMPHASIS: Photography
EMPHASIS: Printmaking
EMPHASIS: Sculpture
EMPHASIS: Museum Conservation

MINORS: Art History
Museum Conservation
Studio Art

The Department of Art provides a rigorous program for the enrichment, application, development, and appreciation of the visual arts. Students in studio develop an individual aesthetic by experimenting with and expressing visual concepts in an articulate manner. Art history students acquire a comprehensive understanding of the aesthetic and cultural issues addressed within the history of art, conducting and presenting independent research. The study of art provides an appropriate background for the pursuit of careers in studio art and art history in such areas as the visual arts, graphic design, conservation, library work, museum work, advertising, architecture and interior design, photography, crafts, cinematography, education and art therapy, publishing, theatre, television, dance, industry and business, communication, religion, management, and research in the creative and academic areas. A major in art also provides students with a broad humanistic background appropriate to preparation for advanced degrees in other fields. All art majors must successfully complete ART 155 and ART 156 during their freshman year.

Students enrolled in this department’s major(s) or minor(s) may count credits in required applied courses toward their degrees beyond the normal maximum of 9 credits allowed in the College of Arts and Sciences. Note that 9 credits need to be taken outside Art at the upper level division. However, if students change the major(s) or minor(s) or do not complete the requirements for the minor at the time of graduation, they may only count a maximum of 9 credits to the applied/occupational credits toward graduation.

DEGREE: Bachelor of Arts
MAJOR: Art
EMPHASIS: Studio Art

The general studio program is designed to give the student an understanding of the fields of drawing, painting, graphic design, printmaking, sculpture, photography, jewelry and metalsmithing, ceramics, and the history and appreciation of art in the context of a liberal education.

Departmental Requirements (Total credits 66)

Freshman Year (15 credits)
ART 150, Drawing I .........................................................3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ..............6
ART 295 and 296, Introduction to Art History I, and II ..................6

Sophomore Year (21 credits)
ART 151, Drawing II .........................................................3
ART 250, Drawing III .........................................................3
ART 297 Introduction to Art History III ....................................3
Four 200-level studio courses ..............................................12

Junior Year (15 credits)
ART 290, Drawing IV .......................................................3
Three 300-level studio courses ............................................9
One 300-level art history course ...........................................3

Senior Year (15 credits)
Three 300-level or above studio courses ...................................9
Two 300-level art history courses .........................................6
Elective art courses taken beyond the 66 required credits must be taken at a 300 level or above.
Electives: Sufficient to bring credits to 128, including 48 upper-division.

EMPHASIS: Art History

The art history program is designed to give the student a broad familiarity with the visual arts through the factual and theoretical study of aesthetics, cultural contexts, iconography, pictorial traditions, stylistic development, and technical practices. Students are encouraged to take related courses in anthropology, history, languages and literature, music history, philosophy, religion, theatre and costume history. Those anticipating graduate work in art history should also study French or German.

Departmental Requirements (Total credits 63)

Freshman Year (15 credits)
ART 150, Drawing I .........................................................3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ..............6
ART 295, Introduction to Art History I .....................................3
ART 296, Introduction to Art History II ....................................3

Sophomore Year (18 credits)
ART 297, Introduction to Art History III ...................................3
Three 300-level art history courses ........................................9
Two 200/300-level art history or studio courses .................................6

Junior Year (15 credits)
Three 300/400-level art history courses ....................................9
Two 200/400-level art history or studio courses .................................6

Senior Year (15 credits)
ART 479, Art Theory, Criticism, Historiography ............................3
Two 300/400-level art history courses ........................................6
Two 200/400-level art history or studio courses .................................6
Electives: Sufficient to bring total credits to 128 for graduation, including 48 upper-division.

DEGREE: Bachelor of Fine Arts
MAJOR: Art
EMPHASIS: Studio Art

The studio art curriculum is designed to give the student a broad understanding of the field of art, including appreciation and criticism, ceramics, graphic design, photography, jewelry and metalsmithing, drawing, printmaking, painting, sculpture, and art history. This program is recommended for those students who wish to embark on a professional career in art.
The maximum number of credits counted toward graduation is 81. Of these, 9 credits must be in 300-level art history period courses in addition to all three 200-level art history surveys. A senior thesis exhibition is required of all graduating B.F.A. students in their last semester.

The maximum credits for variable courses shall be 6 credits per semester except by permission.

GENERAL REQUIREMENTS EXCEPTION
A second language is not required.

Departmental Requirements (Total credits 78)

Sophomore Year (18 credits)

ART 150, Drawing I ..................................................3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ..............6
ART 295-296, Introduction to Art History I, II ..................................3
One 200-level studio course .................................................3

Sophomore Year (18 credits)

ART 151, Drawing II ..................................................3
ART 250, Drawing III ..................................................3
ART 297, Introduction to Art History III ..................................3
Four 200-level studio courses .............................................12

Junior Year (18 credits)

ART 250, Drawing IV ..................................................3
Two 300-level art history courses ..........................................6
Four 300-level studio courses .............................................12

Senior Year (18 credits)

One 300-level art history course ..........................................3
Five 200-level or above studio courses ................................15
A senior thesis exhibition will be required of all graduating B.F.A. students in their last semester.

EMPHASIS: Ceramics

The Ceramics program provides the student with a broad spectrum of experience in the major areas of the ceramics profession.

REQUIRED COURSES

Freshman Year (18 credits)

ART 150, Drawing I ..................................................3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ..............6
ART 295, Introduction to Art History I ..................................3
ART 296, Introduction to Art History II ..................................3
One 200-level studio course .................................................3

Sophomore Year (21 credits)

ART 151, Drawing II ..................................................3
ART 250, Drawing III ..................................................3
ART 255, Introduction to Graphic Design and Digital Media ...........3
ART 256, Introduction to Letter Forms and Typographic Design ......3
ART 261, Painting Methods, Techniques and Applications ...........3
ART 270, Photography II ..............................................3
ART 295, Introduction to Art History II ..................................3
Two 200-level studio courses, one 2 dimensional and one 3 dimensional area 6
ART 350, Drawing IV ..................................................3

Junior Year (21 credits)

Two ART 450, Drawing Workshops .......................................6
ART 380, Innovation and Creativity in Painting .........................3
Two 300/400-level art history courses ....................................6
Two 300/400-level studio courses ........................................6

Senior Year (18 credits)

Two ART 450, Drawing Workshop .......................................6
ART 460, Painting Workshop .............................................3
ART 461, Painting Workshop II ..........................................3
One 300/400-level art history course ....................................3
One 300/400-level studio course ........................................3
A senior thesis exhibition is required of all graduating B.F.A. students in their last semester.

EMPHASIS: Graphic Design

The graphic design program provides the student with a broad spectrum of experience in the major areas of this applied design profession. Particular emphasis is placed on the development of basic studio skills, the use of design studio tools, equipment and materials, the creative solution of visual communication projects, and portfolio design.

REQUIRED COURSES

Freshman Year (18 credits)

ART 150, Drawing I ..................................................3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ..............6
CMT 140, Print Media ................................................3
ART 255, Image Processing I .........................................3
ART 256, Introduction to Graphic Design and Digital Media ...........3
ART 257, Introduction to Letter Forms and Typographic Design ......3
ART 270, Photography II ..............................................3
ART 295, Introduction to Art History I ..................................3

Sophomore Year (24 credits)

ART 151, Drawing II ..................................................3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ..............6
CMT 142, Computer Illustration .......................................3
ART 255, Image Processing I .........................................3
ART 256, Introduction to Graphic Design and Digital Media ...........3
ART 257, Introduction to Letter Forms and Typographic Design ......3
ART 270, Photography II ..............................................3
ART 295, Introduction to Art History I ..................................3
One 200-level elective studio course ....................................3
CMT 254, History of Media Design (recommended but not required; may replace one art history) ..................3

Junior Year (24 credits)

ART 250, Drawing III ..................................................3
ART 257, Introduction to Letter Forms and Typographic Design ......3
ART 356, Graphic Design and Digital Production .......................3
ART 356, Graphic Design and Multicolor Digital Production ..........3
ART 457, Typographic Design and the Computer ......................3
Two 300/400-level elective art history courses ..........................6
One 300/400-level elective art course ....................................3
## Senior Year (15 credits)
- ART 350, Drawing IV ................................................................. 3
- ART 455, Advanced Graphic Design: Conceptual Development and Professional Practice ................................................................. 3
- ART 456, Advanced Graphic Design: Portfolio Development and Professional Practice ................................................................. 3
- ART 457, New Mexico Studio of Design ................................................................. 3
- One 300/400-level elective art history course ................................................................. 3

A senior thesis show will be required of all graduating BFA students in their last semester.

### EMPHASIS: Metalsmithing and Jewelry

The metalsmithing and jewelry program is designed to expose the student to a broad range of technical processes, including, but not exclusive to, metals. Contemporary metalworking encompasses the realm of purely conceptual and sculptural objects, as well as the ornamental and body-related. Students study the history of the decorative arts and clarify their ideas through the design and production of jewelry, utilitarian, and sculptural objects.

### REQUIRED COURSES

#### Freshman Year (18 credits)
- ART 150, Drawing I ................................................................. 3
- ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ................. 6
- ART 295, Introduction to Art History I ................................................................. 3
- ART 296, Introduction to Art History II ................................................................. 3
- One 200-level studio course ................................................................................. 3

#### Sophomore Year (21 credits)

- ART 151, Drawing II ................................................................. 3
- ART 250, Drawing III ................................................................. 3
- ART 285, Metals and Jewelry I ................................................................. 3
- ART 297, Introduction to Art History III ................................................................. 3

Three 200-level studio courses ................................................................................. 9

#### Junior Year (21 credits)

- ART 350, Drawing IV ................................................................. 3
- ART 385, Metals and Jewelry II A ................................................................. 3
- ART 485, Metals Workshop ................................................................. 3

Two 300/400 level art history courses ................................................................. 6

One 300/400 level studio courses ................................................................................. 3

#### Senior Year (18 credits)

- ART 485, Metals Workshop ................................................................. 12
- One 300/400-level art history course ................................................................. 3
- One 300/400-level studio course ................................................................................. 3

A senior thesis exhibition is required of all graduating B.F.A. students in their last semester.

### EMPHASIS: Museum Conservation

Art Conservation is the study of the preservation and restoration of art as well as other cultural and natural objects. The BFA and BA degrees with an emphasis in Museum Conservation provide an academic structure within which students master specific sets of practical skills while developing broad professional and theoretical perspective toward the issue of conserving objects in a museum or collection setting. By combining theory with practice, the program offers students the interpretive, quantitative, and administrative skills needed for careers as curators, registrars, collections managers, exhibit designers, and museum administrators, all of whom must have specialized training in the care and handling of works of art to be successful.

### Science (21 credits)

Required (12-16 cr):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111G, CHEM 112G (8 cr) or CHEM 115, 116 (8 cr); CHEM 211 (4 cr) (if you are NOT going to graduate school) or CHEM 313, 314, 315 (Lab) (8 cr) (if you ARE going to graduate school)</td>
<td>3-5</td>
</tr>
</tbody>
</table>

Plus sufficient credits to total 21 credits from the following (5-9 cr):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 365, Descriptive Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 371, Analytical Chemistry Lab</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 211, Cellular and Organismal Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 213L, Cellular and Organismal Biology Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 311, General Microbiology (BIOL 211G is prerequisite)</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 311L, General Microbiology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>EPWS 303, Economic Entomology</td>
<td>4</td>
</tr>
</tbody>
</table>

### Art History (12 credits)

- ART 295, Introduction to Art History I ................................................................. 3
- ART 296, Introduction to Art History II ................................................................. 3
- ART 297, Introduction to Art History III ................................................................. 3
- Plus one ART elective 300 level or higher ................................................................. 3

### History/Anthropology (18 credits)

- 2 required courses (6 cr):
  - ANTH 315, Introduction to Archaeology ................................................................. 3
  - HIST 483, Historic Preservation ................................................................. 3

- 4 electives (12 cr):
  - ANTH 313, Ancient Mexico ................................................................. 3
  - ANTH 316, Archaeology of the American Southwest ................................................................. 3
  - ANTH 318, Historical Archaeology ................................................................. 3
  - ANTH 334, Anthropology of Art Traditions ................................................................. 3
  - ANTH 378, Introduction to Lab Methods in Archaeology ................................................................. 3
  - ANTH 414, The Archaeology of Religion ................................................................. 3
  - ANTH 467, Archaeology of the American Southwest ................................................................. 3
  - ANTH 485, Field Experience (if archaeology) ................................................................. 1-3
  - ANTH 497, Special Topics (if archaeology) ................................................................. 1-5

### Museum Studies (6 credits)

- ANTH 345, Introduction to Museology ................................................................. 3
- ANTH 449, Preventative Conservation Internship ................................................................. 3

### Studio Art (21 credits)

- ART 190, Drawing ................................................................. 3
- ART 280, Painting ................................................................. 3
- ART 385, Sculpture I-A ................................................................. 3
- ART 270, Photography I ................................................................. 3
- ART 275, Ceramics I-A ................................................................. 3
- ART 280, Printmaking I ................................................................. 3
- ART 285, Metals and Jewelry I ................................................................. 3

### Art Conservation (9 credits)

The following courses are open by permission of the instructor only:

- ART 401, Museum Conservation Techniques I (Spring, required) ................................................................. 3
- ART 402, Museum Conservation Techniques II (Fall, required) ................................................................. 3
- ART 403, Preventative Conservation/Collections Care (required) ................................................................. 3
- ART 499, Independent Studies (optional) ................................................................. 3-6

### EMPHASIS: Painting

The painting program begins with basic studies in drawing, two-dimenional design, and color in preparation for more advanced study of specific painting techniques, exploration of the expressive possibilities of various media, and the diverse conceptual modes available to the painter.

### REQUIRED COURSES

#### Freshman Year (18 credits)

- ART 150, Drawing I ................................................................. 3
- ART 151, Drawing II ................................................................. 3
- ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ................. 6
- ART 295, Introduction to Art History I ................................................................. 3
- ART 296, Introduction to Art History II ................................................................. 3

#### Sophomore Year (21 credits)

- ART 250, Drawing III ................................................................. 3
- ART 260, Introduction to painting ................................................................. 3
- ART 261, Painting Methods, Techniques and Applications ................................................................. 3
- ART 297, Introduction to Art History III ................................................................. 3
- ART 350, Drawing IV ................................................................. 3

Two 200-level studio course in a two-dimensional area ................................................................. 6

#### Junior Year (18 credits)

- ART 360, Innovation and Creativity In Painting ................................................................. 3
- ART 361, Painting IIIB ................................................................. 3
- ART 450, Drawing Workshop ................................................................. 3

Two 300/400-level art history courses ................................................................. 6

One 300/400-level studio courses in a two-dimensional area ................................................................. 3

#### Senior Year (21 credits)

Two ART 450, Drawing Workshop ................................................................. 6
- ART 460, Painting Workshop ................................................................. 3
Two ART 461, Painting Workshop II ................................................................. 6*
One 300/400-level art history course ......................................................... 3
One 300/400-level studio course ................................................................. 3

A senior thesis exhibition is required of all graduating B.F.A. students in their last semester.

*Either (not both) ART 450 or ART 461 must be taken for 6 credits.

EMPHASIS: Photo/Graphics

This emphasis is for students who have an interest in both photography and graphic design. Students planning to combine these two studio areas professionally take a concentration of photography and graphic design courses. Concepts of visual form, communication and image processing are areas shared and graphic design. Students planning to combine these two studio areas professionally plan their last semester.

One 300/400-level studio course in a 3-D area ............................................. 3

Sophomore Year (18 credits)

ART 151, Drawing II .................................................................................. 3
ART 250, Drawing III ................................................................................. 3
ART 255, Introduction to Graphic Design and Digital Media .................. 3
ART 256, Introduction to Letter Forms and Typographic Design .......... 3
ART 270, Photography I ........................................................................... 3
ART 297, Introduction to Art History III ................................................... 3

Junior Year (21 credits)

ART 355, Graphic Design and Digital Production ................................... 3
ART 356, Graphic Design and Multicolor Digital Production .............. 3
ART 369, Constructed Image .................................................................... 3
ART 370, Color Photography .................................................................... 3
ART 373, Non-silver Photography Processes ......................................... 3
Two 300/400-level art history courses ..................................................... 6

Senior Year (18 credits)

ART 455, Advanced Graphic Design: Conceptual Development and Professional Practice ................................................................. 3
ART 457, Advanced Typographic Design and the Computer ............. 3
ART 458, New Mexico Studio of Design .................................................... 3
ART 470, Photography Workshop ............................................................. 3
ART 470, Photography Workshop, or ART 456, Advanced Graphic Design: Portfolio Development and Professional Practice ........... 3
One 300/400-level art history course ......................................................... 3

A senior thesis exhibition is required of all graduating B.F.A. students in their last semester.

EMPHASIS: Photography

The program of study includes basic black-and-white and color photography, including shooting, processing, and printing, zone system, photochemistry, and archival procedures. Contemporary criticism and theory provide a framework for understanding photography in the fine arts, advertising, journalism, and documentary work. Readings, slide lectures, and writing assignments offer a critical and historical context for the refinement of individual work.

REQUIRED COURSES

Freshman Year (18 credits)

ART 150, Drawing I .................................................................................. 3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ............... 6
ART 295, Introduction to Art History I ...................................................... 3
ART 296, Introduction to Art History II .................................................... 3
One 200-level studio course ..................................................................... 3

Sophomore Year (24 credits)

ART 151, Drawing II .................................................................................. 3
ART 250, Drawing III ................................................................................. 3
ART 255, Introduction to Graphic Design and Digital Media ............... 3
ART 280, Printmaking I, or ART 256 Introduction To Letter Forms and Typographic Design ................................................................. 3
ART 270, Photography I ........................................................................... 3
ART 271, Large Format Photography and Lighting ............................... 3
ART 297, Introduction to Art History III ................................................... 3

One 200-level elective studio course ....................................................... 3

Junior Year (21 credits)

ART 350, Drawing IV ................................................................................ 3
ART 370, Color Photography (may be taken at the same time as ART 271, Large Format Photography and Lighting) ......................... 3
ART 371, Digital Photography image capture and output .................... 3
ART 470, Photography Workshop ............................................................ 3
Two 300/400-level art history courses ..................................................... 6
One 300/400-level elective studio course ................................................ 3

Senior Year (15 credits)

ART 369, The Constructed Image .............................................................. 3
ART 373, Non-silver Photography, or ART 388 Pinhole Photography, or ART 472 Studio Lighting/Advanced Color ..................................... 3
ART 470, Photography Workshop ............................................................ 3
Two 300/400-level elective art history or studio courses ....................... 6

A senior thesis show is required of all graduating B.F.A. students in their last semester.

EMPHASIS: Printmaking

The printmaking program provides the student with a strong foundation in the major forms of art. Particular emphasis is placed on the development of the student’s aesthetic through printmaking and drawing.

REQUIRED COURSES

Freshman Year (18 credits)

ART 150, Drawing I .................................................................................. 3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ............... 6
ART 295, Introduction to Art History I ...................................................... 3
ART 296, Introduction to Art History II .................................................... 3
One 200-level studio course ..................................................................... 3

Sophomore Year (21 credits)

ART 151, Drawing II .................................................................................. 3
ART 250, Drawing III ................................................................................. 3
ART 280, Printmaking I ............................................................................ 3
ART 281, Printmaking II ............................................................................ 3
ART 297, Introduction to Art History III ................................................... 3
Any two 200-level courses, to include a 3-D area ..................................... 6

Junior Year (21 credits)

ART 350, Drawing IV ................................................................................ 3
ART 480, Printmaking Workshop .............................................................. 3
Two 300/400-level art history courses ..................................................... 6
Two 300/400-level elective studio courses ............................................. 6

Senior Year (18 credits)

ART 450, Drawing Workshop ................................................................. 3
ART 380, Printmaking III ......................................................................... 3
ART 480, Printmaking Workshop .............................................................. 3
One 300/400-level art history period course .......................................... 6
Two 300/400-level elective studio courses ............................................. 6

A senior thesis exhibition will be required of all graduating B.F.A. students in the last semester.

EMPHASIS: Sculpture

Students enrolled in the sculpture program are encouraged to experiment with a variety of forms and ideas and to distill these visual and conceptual experiences into art that reflects the individuality of the maker. Students frequently travel to exhibitions, symposia, and artists’ studios to further their knowledge of sculpture and their awareness of making art within a historical context. A collection of power tools, metal, plaster, and woodworking facilities, and a spacious outdoor work area augment students’ practice.

REQUIRED COURSES

Freshman Year (18 credits)

ART 150, Drawing I .................................................................................. 3
ART 155, 2D Fundamentals and ART 156, 3D Fundamentals ............... 6
ART 295, Introduction to Art History I ...................................................... 3
ART 296, Introduction to Art History II .................................................... 3
One 200-level studio course ..................................................................... 3
### Sophomore Year (21 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 151, Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ART 250, Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>ART 265, Sculpture I, A</td>
<td>3</td>
</tr>
<tr>
<td>ART 266, Sculpture I, B</td>
<td>3</td>
</tr>
<tr>
<td>ART 297, Introduction to Art History III</td>
<td>3</td>
</tr>
<tr>
<td>Two 200-level studio courses</td>
<td>6</td>
</tr>
</tbody>
</table>

### Junior Year (21 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 359, Drawing IV</td>
<td>3</td>
</tr>
<tr>
<td>ART 365, Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>ART 366, Sculpture IIB</td>
<td>3</td>
</tr>
<tr>
<td>Two 300/400-level art history courses</td>
<td>6</td>
</tr>
<tr>
<td>Two 300/400-level studio courses</td>
<td>6</td>
</tr>
</tbody>
</table>

### Senior Year (18 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 465, Sculpture Workshop</td>
<td>12</td>
</tr>
<tr>
<td>One 300/400-level art history course</td>
<td>3</td>
</tr>
<tr>
<td>One 300/400-level studio course</td>
<td>3</td>
</tr>
</tbody>
</table>

A senior thesis exhibition is required of all graduating B.F.A. students in their last semester.

### MINOR: Art History

The Art History minor requires 27 credits. Students cannot earn both a bachelor’s degree in the Department of Art and an Art History minor unless they pass at least 6 credits in the minor beyond the requirements of the major. Students cannot earn both the Bachelor of Art with an Art History emphasis and a minor in Art History.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 295, Introduction to Art History I</td>
<td>3</td>
</tr>
<tr>
<td>ART 296, Introduction to Art History II</td>
<td>3</td>
</tr>
<tr>
<td>ART 297, Introduction to Art History III</td>
<td>3</td>
</tr>
<tr>
<td>Five art history courses at the 300-499 level</td>
<td>15</td>
</tr>
<tr>
<td>One course in humanities or studio art, subject to approval by the minor advisor</td>
<td>3</td>
</tr>
</tbody>
</table>

### MINOR: Museum Conservation

The Museum Conservation minor requires 27 credits. Students cannot earn both a bachelor’s degree in the Department of Art and the Museum Conservation minor unless they pass at least 6 credits in the minor beyond the requirements of the major.

18 credits from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 150, Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ART 260, Painting I</td>
<td>3</td>
</tr>
<tr>
<td>ART 265, Sculpture I-A</td>
<td>3</td>
</tr>
<tr>
<td>ART 270, Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART 275, Ceramics I-A</td>
<td>3</td>
</tr>
<tr>
<td>ART 280, Printmaking I</td>
<td>3</td>
</tr>
<tr>
<td>ART 285, Metals and Jewelry I</td>
<td>3</td>
</tr>
<tr>
<td>ART 295, Introduction to Art History I</td>
<td>3</td>
</tr>
<tr>
<td>ART 296, Introduction to Art History II</td>
<td>3</td>
</tr>
<tr>
<td>ART 297, Introduction to Art History III</td>
<td>3</td>
</tr>
<tr>
<td>9 credits Museum Conservation courses:</td>
<td></td>
</tr>
<tr>
<td>ART 401, Museum Conservation Techniques I (Spring)</td>
<td>3</td>
</tr>
<tr>
<td>ART 402, Museum Conservation Techniques II (Fall)</td>
<td>3</td>
</tr>
<tr>
<td>ART 403, Preventative Conservation_Collections Care (directed readings)</td>
<td>3</td>
</tr>
</tbody>
</table>

### MINOR: Studio Art

The Studio Art minor requires 27 credits. Students cannot earn both a bachelor’s degree in the Department of Art and a Studio Art minor unless they pass at least 6 credits in the minor beyond the requirements of the major.


Nine credits of studio art or art history at the 300-499 level 9

### ASTRONOMY

**Associate Professor Jim Murphy, department head**

**Professors** Anderson, Klypin, McNamara, Walterbos; **Associate Professors** Holtzman, Vogt; **Assistant Professors** Churchill, **College Assistant Professors** Beebe, Webber, **College Assistant Professors** Chanover, Harrison (575) 646-4439

**MINOR: Astronomy**

The department offers an undergraduate astronomy minor degree, which requires 18 credits. The department does not offer a B.S. degree but encourages interested students to enroll in the physics program as a first step toward a career in astronomy. Our 100- and 300-level courses meet various university general education requirements. All students are invited to share with us this exciting area of study, through our basic and advanced undergraduate courses. The Department of Astronomy offers a graduate program leading to M.S. and Ph.D. degrees. Interested students should consult the Graduate School Catalog, which is available from the Graduate School.

### Regular Undergraduate Course Offerings

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 105G, The Planets</td>
<td>4</td>
</tr>
<tr>
<td>ASTR 110G, Introduction to Astronomy</td>
<td>4</td>
</tr>
<tr>
<td>ASTR 301V, Revolutionary Ideas in Science</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 305V, Life in the Universe</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 308V, Into the Final Frontier</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 330V, Planetary Exploration</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 405, Astronomy and Astrophysics I</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 406, Astronomy and Astrophysics II</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 435, Observational Techniques I</td>
<td>3</td>
</tr>
</tbody>
</table>

Other courses at the 300- and 400-levels are offered on an occasional basis. Consult the “Course Descriptions” chapter in this catalog.

### MINOR: Astronomy

Pass one of ASTR 105G, The Planets; or ASTR 110G, Introduction to Astronomy. 4

Pass two of: ASTR 301V, Revolutionary Ideas in Science, ASTR 305V, Life in the Universe, ASTR 308V, Into the Final Frontier, and/or ASTR 330V, Planetary Exploration. 6

Note: ASTR 400 courses in this area

Pass one in each of the following:  a) ASTR 405, Astronomy and Astrophysics I or ASTR 505, Astronomy and Astrophysics I 3

b) ASTR 406, Astronomy and Astrophysics II 3
c) ASTR 435, Observational Techniques I 3

### BIOLOGY

**Professor Marvin Bernstein, interim department head**

**Professors** Bernstein, Boecklen, Houde, Milligan, Serrano, Smith; **Associate Professors** Gustafson, Nishiguchi, Preszler, C. Shuster, Unquez; **Assistant Professors** Bailey, Castillo, Curtiss, Dawe, Hanley, Hansen, M. Shuster, Thropp, Wright, Xu;

(575) 646-3611

**DEGREE: Bachelor of Arts**

**MAJOR: Biology**

**DEGREE: Bachelor of Conservation Ecology**

**MAJOR: Conservation Ecology**

**DEGREE: Bachelor of Science**

**MAJOR: Biology**

**MAJOR: Genetics**
MAJOR: Microbiology

MINORS:
- Biology
- Conservation Ecology
- Human Biology
- Microbiology

A student may earn the Bachelor of Arts in biology or the Bachelor of Science through major studies in the Department of Biology. The Bachelor of Science in biology or microbiology is recommended for premedical and preprofessional students, those preparing to teach biology and other sciences at the secondary and college levels, those interested in the numerous fields of biological research and applied biology, and those planning on obtaining an advanced degree in biology.

Freshmen should begin taking required biology and chemistry courses in their first year. Students are required to speak with an advisor in the Department of Biology as soon as they declare a biology major. The department welcomes students considering a biology major who wish preliminary advising. More information on the Department of Biology is available on our website, http://biology-web.nmsu.edu.

A student must earn a grade of C or better to receive credit for any nondepartmental or departmental requirement for any major or minor offered by the Department of Biology.

It is strongly recommended that students include a minor or supplementary course work in a specific discipline to enhance their academic experience. See under General Information at the beginning of this catalog for specific requirements for, and departments which offer a minor. Selection of a minor or a supplementary coursework area should be done in consultation with an advisor.

The department offers minors in biology and microbiology for students in other disciplines. In addition, we offer minors in human biology and in conservation biology, for biology and other majors.

A student must fulfill a second language requirement in all Bachelor of Arts and Bachelor of Science degrees in the Biology and Microbiology majors. This requirement does not apply to the Conservation Ecology major, offered jointly with the Department of Fisheries, Wildlife and Conservation Ecology, or the Genetics major, offered jointly with the Department of Plant and Environmental Science. To meet this requirement, the student must do one of the following:

- Complete two semesters of foreign language courses numbered 111 and 112 with a grade of C or better. Spanish speakers should enter and complete 113 with a C or better to fulfill the requirement.
- Challenge the 112 level of French, German, Japanese, Latin, Portuguese, Russian or Spanish, or the 113 level for the Spanish-speaking student.
- Obtain college certification of completion of two years of a second language at the high school level with a grade of C or higher in the second-year level. (i.e. equivalent to French 112, German 112, Spanish 112, etc.)
- Complete two semesters of American Sign Language, courses C D 374 and C D 375, with a grade of C or better.
- Additional mechanisms for fulfilling the language requirement are listed under the College of Arts and Science language requirement.

DEGREE: Bachelor of Arts

MAJOR: Biology

The Bachelor of Arts curriculum is intended for students who desire a broad education with emphasis in biology in a program chosen by the student in consultation with an advisor. The Bachelor of Arts is recommended for those who plan to teach biology at the primary and secondary school levels or to use a background in life science in business or other endeavors.

Nondepartmental Requirements

CHEM 111G-112G, General Chemistry I, II .......................................................... 8
CHEM 211, Organic Chemistry, or CHEM 313, 314, 315, Organic Chemistry, I, II and Lab .......................................................... 4-8
MATH 142G, Calculus for the Biological and Management Sciences I, or MATH 191G, Calculus and Analytic Geometry I

One course from one of the following departments: astronomy, computer science, geology or physics. .............................................. 3-4

Departmental Requirements

BIOL 111G, Natural History of Life................................................................. 3
BIOL 111L, Natural History of Life Laboratory .............................................. 1
BIOL 211G, Cellular and Organismal Biology ............................................... 3
BIOL 211L, Cellular and Organismal Biology Laboratory .............................. 1

Biol 305, Principles of Genetics ................................................................. 3
BIOL 467, Evolution ............................................................................... 3

One course from each of the following four general areas:

- Cellular integration: BIOL 311, 317, 474, 490
- Organismal integration: BIOL 314, 381
- Ecology: BIOL 391, 473
- Evolutionary pattern: BIOL 312, 313, 322, 330, 433, 439, 445, 447, 465

Sufficient upper-division biology electives to bring total upper-division credits to 20. Choice of electives should be done in consultation with an advisor. Other electives: Sufficient to bring total to 128, including 48 upper-division.

DEGREE: Bachelor of Conservation Ecology

MAJOR: Conservation Ecology

MINOR: Conservation Ecology

Codirectors of the Program:

- Marvin Berstein, Ph.D., interim department head, Biology
- Raul Valder, Ph.D., department head, Fishery, Wildlife, and Conservation Ecology

Program Participants:

- Professors Boecklen, Houde, Milligan, G.Smith; Associate Professors M. Anderson, Boren, Desmond, Gustafson, Nishiguchi, Preszler; Assistant Professors Cowley, Bailey, Boeing, Hanley, Roemer, Thropo, Wright

Now Mexico State University offers an interdisciplinary, undergraduate program in Conservation Ecology. The goal of this program is to train biologists for the current and future challenges of sustainability in the conservation of our natural resources. An overriding principle of this program is to provide a solid foundation in basic science coupled with a practical approach towards sustainability and stewardship. The curriculum encompasses several disciplines and includes a wide variety of courses from Biology, Fishery and Wildlife Science, Geography, Government, and Range Science.

The education experience will provide students with an overview of global biodiversity and an understanding of the ecological and evolutionary processes that have created and sustained it. Courses in population and community ecology coupled with population viability analysis and risk assessment will give students the necessary background to understand the theory and development of these fields as well as the tools to tackle real-world problems. Courses in basic genetics, evolution, and conservation genetics will expose students to the importance of conserving genetic variation in order to maintain adaptive potential within populations, thereby sustaining the evolutionary process. Students will also receive background on wildlife law and environmental policy, information vital for assisting governing bodies in making decisions regarding the protection and wise use of our natural resources. Skills obtained in the application of geographic information systems, molecular genetics, and professional communication can also be acquired through various electives. In sum, we seek to provide undergraduate students with an education that will allow the opportunity to contribute to the conservation of all life on Earth.

The requirements are listed below. In addition each required course must be passed with a grade of C or better.

DEGREE REQUIREMENTS

NOTE: General Education requirements were under revision at the time of publication. Students must check with their academic adviser for current requirements and lists of specific courses that meet these requirements.

Core Curriculum (Includes University and College Requirements 67-68 credits)

- CHEM 111G/112G, General Chemistry I/II .................................................. 8
- CHEM 211, Organic Chemistry ................................................................. 4
- BCHE 341, Survey of Biochemistry ......................................................... 4
- C S Elective - Any Computer Science course 100 or above, or AXED 259G, Life with Microcomputers .............................................. 3
- E ST 311G, Statistical Applications .......................................................... 3
- ENGL 111G, Rhetoric and Composition .................................................. 4
- ENGL 318G, Advanced Technical and Professional Communication or ENGL 311G, Advanced Composition ............................................. 3
- Liberal Studies—Historical Perspectives General Education .................... 3
- Liberal Studies—English Language and Fine Arts, General Education ...... 3
- Liberal Studies—one course in a liberal studies discipline not already taken 3
- Social Science—Human Thought and Behavior General Education ........ 3
- Social Science—Social Analysis General Education, COMM 265G Principles of Human Communication ................................. 3
Social Science—ECON 250G, Principles of Macroeconomics
MATH 120, Intermediate Algebra; and MATH 142G, Calculus for Biological and Management Sciences I or MATH 191G/192, Calculus and Analytical Geometry II.
PHYS 211G/211GL, General Physics I/Laboratory
PHYS 212/212L, General Physics II/Laboratory
Physiology—Any physiology course among the following:
WLSC 432, 311, 377, 381, 474, ANSC 370
Viewing a Wider World—ECON 337V, Natural Resource Economics
(Second VWW course will be satisfied using the 9-hour rule: students with Biology as home department use WLSC courses and students with Life Science as home department use BIOL courses.)

Major Requirements (43-45 credits)
WLSC 230, Natural History of the Vertebrates
WLSC 255, Principles of Natural Resource Management
WLSC 402, Seminar in Natural Resource Management
WLSC 447, Wildlife Law, Policy and Administration
BIOL 111G, Natural History of Life
BIOL 111L, Natural History of Life Laboratory
BIOL 211G, Cellular and Organismal Biology
BIOL 211L, Cellular and Organismal Biology Laboratory
WLSC 310, Managing Ecological Systems for Biodiversity or BIOL 462, Conservation Biology
BIOL 301, Principles of Ecology
BIOL 305, Genetics
BIOL 467, Evolution
BIOL 312, Plant Taxonomy, or RGSC 307, Rangeland Grasses, and RGSC 316, Rangeland Plants
BIOL 313, Structure and Function of Plants
BIOL 322, Zoology
WLSC 409, Population Ecology, or BIOL 470, Plant Community Ecology

Requirements in Diversity of Life: Any two courses (6-8 credits)
WLSC 430, Avian Field Ecology, or BIOL 447, Ornithology
WLSC 431, Forest and Range Mammals
WLSC 382, Ichthyology
BIOL 433/433L, Insect Biology/Laboratory
BIOL 445, Herpetology
BIOL 465, Invertebrate Zoology

Additional courses
Electives to bring total to 128 credits including 48 upper division credits

Recommended Electives
BIOL 468, Ecological Field Biology
BIOL 498, Principles of Conservation Genetics
BIOL 499, Genetic Aspects of Population Biology
GEOG 381, Cartography
GEOG 481, Fundamentals of Geographic Information Systems
WLSC 445, Systems Ecology in Wildlife Management

Other Related Courses
RGSC 318, Watershed Management
RGSC 325, Rangeland Restoration Management
RGSC 452, Rangeland Analysis
GEOL 111G, Survey of Geology
GEOL 295, Environmental Geology
GEOL 424, Environmental Policy
GOVT 478, U.S.-Mexico Border Politics
HIST 400, Special Topics: Environmental History of the Southwest
HIST 418, From the Wild West to the Atomic Age
HIST 429, Plague, Plunder, and Preservation: American Environmental History
TOX 423, Environmental Toxicology

DEGREE: Bachelor of Science
MAJOR: Biology

The major in biology provides a solid academic base for those planning to enter any of the various fields of the biological sciences. The program allows considerable latitude. Suggested course sequences for specific areas of interest within biology (such as botany, zoology, ecology, conservation biology, animal, plant, or cellular physiology, preprofessional studies, and preparation for graduate school) can be obtained from the student’s advisor.

Nondepartmental Requirements
CHEM 111G-112G, General Chemistry I and II
CHEM 211, Organic Chemistry, or CHEM 313, 314, 315, Organic Chemistry, I, II and Lab
BCHE 341, Survey of Biochemistry, or BCHE 335, Biochemistry
MATH 142G, Calculus for the Biological and Management Sciences I, or MATH 191G, Calculus and Analytical Geometry II

Departmental Requirements
BIOL 111G, Natural History of Life
BIOL 111L, Natural History of Life Laboratory
BIOL 211G, Cellular and Organismal Biology
BIOL 211L, Cellular and Organismal Biology Laboratory
BIOL 305, Principles of Genetics
BIOL 467, Evolution

One course from each of the four following general areas:
Cellular integration: BIOL 311, 377, 474, 490
Organismal integration: BIOL 314, 354, 381
Ecology: BIOL 301, 473
Evolutionary pattern: BIOL 312, 313, 322, 330, 433, 439, 445, 447, 465

Sufficient credits numbered 300 or above to bring total upper-division credits in the major to 22. At least one upper-division course must include laboratory and/or field experience. The laboratory/field requirement can be satisfied by any BIOL course above the 300 level that includes a laboratory or a field trip—including BIOL 390 or BIOL 450.

Electives: Sufficient to bring the total credits to 128, including 48 upper-division.

MAJOR: Genetics

Codirectors of the Program:
Greg Mullins, Ph.D., department head, Plant and Environmental Sciences
Marvin Bernstein, Ph.D., interim department head, Biology

Program Participants:
Professors: Bernstein, Bosland, Cramer, Houde, Milligan, O’Connell, Sengupta-Gopalan, Ray; Associate Professors: Nishiguchi, St. Hilaire, Zhang; Assistant Professors: Bailey, Shuster, B., Shuster, M., Curtiss, Dawe

A degree in Genetics can provide excellent preparation for careers in academic research and technical support, teaching, agriculture, the biotechnology industry, medicine and health sciences, forensic science, technical writing, and sales or marketing. It is also an excellent background for students wishing to enter a graduate program, medical school, or veterinary school.

Undergraduates in the Genetics program must earn a grade of C or better to receive credit for required Basic Science Background and Genetics Core courses. Within the Genetics Core curriculum, Tier I courses must be taken by all majors, for a total of 28 credit hours. To accommodate differing interests among students, a series of Tier II courses comprising 11 to 13 credits is provided. Ethical considerations of genetic based technologies will be infused throughout the curriculum, with a focused course on “Science and Ethics” in the Tier III portion of the core curriculum.

DEGREE REQUIREMENTS

General Education Requirements (42 credits)

AREA I: COMMUNICATIONS
English Composition—Level 1: ENGL 111G, ENGL 111H, or SPED 111G
English Composition—Level 2: ENGL 218 or ENGL 318
Oral Communication: AXED 201, COMM 253G, COMM 255G, or HON 255G

AREA II: MATHEMATICS/ALGEBRA
MATH 191G

AREA III: LABORATORY SCIENCE
CHEM 111G/111L and CHEM 112G/112L

AREA IV: SOCIAL/BEHAVIORAL SCIENCES

6-9
AREA V: HUMANITIES AND FINE ARTS.................................................................6-9*
NMSU VIEWING A WIDER WORLD (see catalog for listing of courses).................6
*Total of 15 credits combined between Areas IV and V, with 6 credits in one area
and 9 credits in the other area. See catalog for listing of available courses.

Basic Science Background Requirements (40 credits)
BIOL 111G, Natural History of Life ........................................................................3
CHEM 111G/112G, General Chemistry I, II ............................................................8
CHEM 313/314, Organic Chemistry I, II ...............................................................6
CHEM 315, Organic Chemistry Laboratory ............................................................2
BCHE 395, Biochemistry .......................................................................................3
BCHE 396, Biochemistry and Biotechnology .........................................................3
MATH 191G/192, Calculus and Analytic Geometry I, II .........................................6
EST 311G, Statistical Applications ........................................................................3
PHYS 211G/212 General Physics I, II or PHYS 221G/222G General Physics for Life
Sciences I, II ...........................................................................................................6

Core Requirements (42-44 credits from Tier I, II, and III courses)

Tier I courses (all are required):
GENE 110, Experimental Systems in Genetics .....................................................1
BIOL 211 and 211L, Cell and Organismal Biology and Laboratory ....................4
GENE 306L, Genetic Techniques Laboratory .......................................................1
BIOL 311/311L, General Microbiology and Laboratory .........................................5
GENE 315, Molecular Genetics ............................................................................3
GENE 320, Heredity and Population Genetics .....................................................3
BIOL 377, Cell Biology ........................................................................................3
GENE 440, Genetics Seminar ...............................................................................1
GENE 452, Applied Bioinformatics or MOLB 470, Bioinformatics & Genome
Analysis ................................................................................................................3
BCHE 494, Techniques in Genetic Engineering ....................................................4

Tier II courses (choose one course from each of the following four areas):
Selection response:
AGRO 462, Plant Breeding .................................................................................3
ANSC 423, Animal Breeding ...............................................................................3
BIOL 467, Evolution ............................................................................................3

Physiology:
ANSC 421, Physiology of Reproduction .............................................................3
BIOL 354, Human Physiology ............................................................................3
BIOL 381, Animal Physiology ............................................................................3
BIOL 385, Introduction to Cancer .......................................................................3
BIOL 451, Physiology of Microorganisms ............................................................3
BIOL 474, Immunology .......................................................................................3
EPWS 314, Plant Physiology ..............................................................................3
HORT 471, Plant Mineral Nutrition ....................................................................3

Organism structure:
ANSC 370, Anatomy and Physiology of Farm Animals .....................................4
BIOL 313, Structure and Function of Plants .......................................................3
BIOL 322, Zoology ............................................................................................3
BIOL 330, Comparative Anatomy and Embryology .......................................4
BIOL 470, Developmental Biology ..................................................................3
BIOL 465, Invertebrate Zoology .........................................................................4
EPWS 303, Economic Entomology ....................................................................4

Molecular Genetics:
BIOL 475, Virology ..........................................................................................3
BIOL 478, Molecular Biology of Microorganisms .............................................3
BIOL 482, Microbial Systematics ......................................................................2
GENE 486, Genes and Genomes .......................................................................3
GENE 488, Gene Regulation .............................................................................3

Tier III courses (Choose one science and ethics course from the following):
AGRO 303V, Genetics and Society ..................................................................3
HON 306V, Science, Ethics, and Society ............................................................3
PHIL 321, Biomedical Ethics ............................................................................3

Additional courses
Electives to bring total to 128 credits including 48 upper division credits.

Recommended Electives

Honors College:
Nine credits from:
HON 205G, Life, Energy, and Evolution; HON 214, Successful Fellowship Writing;
HON 225G, History of Ethics; HON 245G, Chemistry: Experiments, Laws, and
Theories.
Six credits from:
HON 306V, Science, Ethics, & Society; HON 314, Successful Fellowship Writing;
HON 322V, Science and Public Policy; HON 410, Honors Internship; HON 420,
Independent Studies; HON 421, Special Topics.
Three credits:
HON 400, Honors Thesis.

Bioinformatics:
Students may pursue a minor in Bioinformatics after consulting with an advisor
in the Computer Science Department. There are 19 credits of coursework
required for this minor which involve: C S 171G, CS 272, CS 370 or 371, and
CS 486.

MAJOR: Microbiology
The major in microbiology provides a solid academic base for those planning
to enter any of the various fields of microbiology.

Nondepartmental Requirements
CHEM 111G,112G, General Chemistry I, II .......................................................8
CHEM 211, Organic Chemistry* .......................................................................4
CHEM 371, Analytical Chemistry* ......................................................................4
BCHE 341, Survey of Biochemistry or BCHE 395, Biochemistry ....................3 or 4
C S 110, Computer Literacy ............................................................................3
MATH 142G, Calculus for the Biological and Management Sciences I, or MATH
191G, Calculus and Analytic Geometry ............................................................3
PHYS 211G, General Physics I or
PHYS 221G, General Physics for Life Sciences ...............................................3
PHYS 212G, General Physics II, or
PHYS 222G, General Physics for Life Sciences ...............................................3
PHYS 211GL, 212L, General Physics Laboratory ............................................3
*CHEM 313, 314, 315, Organic Chemistry I, II, and Lab (8 credits), may substitute
for CHEM 211, CHEM 371.

Departmental Requirements
BIOL 111G, Natural History of Life ....................................................................3
BIOL 111L, Natural History of Life Laboratory ..................................................1
BIOL 211G, Cellular and Organismal Biology ..................................................3
BIOL 211L, Cellular and Organismal Biology Laboratory ................................1
BIOL 311, General Microbiology ....................................................................3
BIOL 311L, General Microbiology Laboratory ..............................................2
BIOL 305, Principles of Genetics ....................................................................3
BIOL 451, Physiology of Microorganisms .......................................................3
BIOL 474, Immunology .....................................................................................3
BIOL 478, Molecular Biology of Microorganisms ............................................3
BIOL 479, Medical Microbiology ....................................................................3
BIOL 479L, Medical Microbiology Laboratory ..............................................1

Two additional credits related to microbiology numbered 300 or above to bring
total upper-division credits in microbiology to 20. This course should be
chosen in consultation with an advisor.
Electives: sufficient to bring total credits to 128 including 48 upper-division.

MINOR: Biology
A student cannot earn a bachelor's degree in Biology or Microbiology and
also earn a minor in Biology. 18 credits in Biology, of which at least 9 credits must be numbered 300
and above. No more than 3 credits may be taken as special topics or
individual study.........................................................18

MINOR: Conservation Ecology
A minor in Conservation Ecology is available for students who choose to
major in other areas, but wish to include Conservation Ecology in their academic
training. A minor in Conservation Ecology must include a minimum of 20 credits
in the discipline with 9 of these coming from upper-division courses.
Core Curriculum (17 credits):
BIOL 111G, Natural History of Life ....................................................................3
BIOL 111L, Natural History of Life, Lab .......................................................... 1
WLSC 230, Natural History of the Vertebrates ............................................. 4
BIOL 301, Ecology ...................................................................................... 3
WLSC 447, Wildlife Law, Policy and Administration .................................. 3
BIOL 462, Conservation Biology, or WLSC 310, Managing Ecological Systems for Biodiversity .......................................................... 3

MINOR: Human Biology

The Human Biology minor is intended to provide academic recognition for students who wish to focus on a significant amount of attention on courses that deal with human beings from a wide variety of biological standpoints. Thus, course work may encompass topics representing a range of view points such as biological function, human ecology, human origins, and psychology. Successful completion of this minor will provide students with a valuable interdisciplinary perspective on the human condition. This program consists of a minimum of 18 hours, that includes a minimum of 12 from within the Biology Department and a minimum of 3 outside the department. Successful completion of the minor will be certified by the Biology Department. A grade of C, S or better is required of all minor courses.

Required Departmental Courses
BIOL 211/211L, Cell and Organismal Biology ........................................... 4
BIOL 305, Principles of Genetics .................................................................. 3

Additional courses to total 18 credits from:

Within Department (minimum 6 credits)
BIOL 254, Human Physiology or BIOL 381, Animal Physiology .............. 3
BIOL 305L, Genetics Techniques ................................................................. 1
BIOL 330, Comparative Anatomy/Embryology ......................................... 4
BIOL 441, Seminar in Comparative Physiology ........................................ 3
BIOL 474, Immunology ............................................................................. 3
BIOL 480, Histology .................................................................................. 3
BIOL 490, Neurobiology ............................................................................ 3
BIOL 454, Biology of Respiration ............................................................... 3
HON 306V, Science and Ethics .................................................................... 3

Outside Department (minimum 3 credits; maximum 6 credits)
ANTH 120G, Human Ancestors .................................................................. 3
ANTH 355, Physical Anthropology ............................................................... 3
ANTH 357V, Medical Anthropology ........................................................... 3
ANTH 458, Anthropology of Reproduction ................................................ 3
HON 223G, Evolution of Human Sexuality ............................................... 3
HON 232G, The Human Mind .................................................................... 3
PSY 374, Psychophysiology and Toxicology ............................................ 3
PSY 375, Introduction to Biopsychology .................................................... 3

MINOR: Microbiology

A student cannot earn a bachelor’s degree in Biology or Microbiology and also earn a minor in Microbiology.

BI CHE 341, Seminar in Microbiology, or BI CHE 395, Biochemistry ............ 3
BIOL 311, General Microbiology ................................................................. 3
BIOL 311L, General Microbiology Laboratory ........................................... 2

At least 11 credits from among BIOL 412, Seminar in Microbiology, BIOL 451, Physiology of Microorganisms, BIOL 473, Ecology of Microorganisms, BIOL 474, Immunology, BIOL 475, Virology, BIOL 477, Applied and Environmental Microbiology, BIOL 478, Molecular Biology of Microorganisms, BIOL 479, Medical Microbiology, BIOL 479L, Medical Microbiology Laboratory, and/or BIOL 482, Microbial Systematics .......................................................... 11

CHEMISTRY and BIOCHEMISTRY

Regents Professor Glenn Kuehn, interim department head

Professors Arturburn, Eiceman, Gopalan, Herndon, M. Johnson, Kuehn, Lamers, Rayson
Associate Professors Quintana, Smirnov, D. Smith, H. Wang, Zoski
Assistant Professors Lara, Lyons, Lusetti, Rowland, J. Smith; Adjunct Professors Houston, Reed, Yang

College Professors Des Enfants, Dunlavy, Ewing, D. Johnson, Mahmoud, Potenza

Phone: (575) 646-2505

DEGREE: Bachelor of Science
MAJOR: Chemistry
MAJOR: Biochemistry

DEGREE: Bachelor of Arts
MAJOR: Chemistry
MINORS: Biochemistry

Chemistry

Environmental Chemistry

A degree in chemistry or biochemistry enables a student to pursue a wide variety of careers in: research, production, sales, management, and teaching.

These degrees are also an excellent preparation for professional studies in medicine, dentistry, forensics, veterinary science, optometry, pharmacology, pharmacy, and law.

Chemistry majors who have completed the requirements for the Bachelor of Science degree may receive American Chemical Society certification if they take an additional one-semester course which includes 1 credit of laboratory.

Students who complete a B.S. in Biochemistry and wish to complete the B.A. in Chemistry must complete 3 additional upper division chemistry credits that are not counted in the B.S. in Biochemistry.

All departmental and nondepartmental requirements may not be taken S/U and must earn a C or better final grade.

DEGREE: Bachelor of Science
MAJOR: Chemistry

Nondepartmental Requirements
MATH 191G, 192, Calculus and Analytic Geometry I, II ................................ 6
MATH 291G, Calculus, and Analytic Geometry III ...................................... 3
MATH 391, MATH 392, C S 171G, or STAT 371 ....................................... 3-4
PHYS 213, 213L, Mechanics and Experimental Mechanics ....................... 4
PHYS 214, 214L, Electricity and Magnetism and Lab .................................. 4
PHYS 315, Modern Physics for Engineers ................................................ 3

Departmental Requirements
BCHE 395 or BCHE 341, Introductory Biochemistry .................................. 3 or 4
CHEM 242, Explorations in Chemistry ........................................................ 1
CHEM 313, 314, 315, Organic Chemistry I, II, and Lab .............................. 8
CHEM 356, Descriptive Inorganic Chemistry ........................................... 3
CHEM 357, Synthetic Inorganic Laboratory .............................................. 2
CHEM 371, Analytical Chemistry ............................................................... 4
CHEM 433, 434, Physical Chemistry I, II ................................................... 6
CHEM 435, Physical Chemistry Laboratory ............................................. 2
CHEM 443, Senior Seminar ....................................................................... 1
CHEM 456, Inorganic Structure and Bonding ........................................... 3
CHEM 471, Instrumental Analysis .............................................................. 4
Electives: Sufficient to bring total credits to 128, including 48 upper division.

Note: Students should work closely with their advisors and review carefully the prerequisites for and the sequential nature of courses required for the Bachelor of Science. There is no foreign language requirement for any baccalaureate degree from this department.

MAJOR: Biochemistry

Nondepartmental Requirements
BIOL 211L, Cellular and Organismal Biology ............................................ 3
BIOL 211L, Cellular and Organismal Biology Laboratory ......................... 1
BIOL 311, General Microbiology ............................................................... 3
BIOL 311L, General Microbiology Laboratory .......................................... 2
BIOL 305, Principles of Genetics ............................................................... 3
BIOL 377, Cell Biology .............................................................................. 3
C S 110, Computer Literacy ..................................................................... 3
E ST 311G, Statistical Applications ........................................................ 3
MATH 191G, 192, Calculus and Analytic Geometry ................................... 6
CHEM 213, Experimental Mechanics, and PHYS 214L, Electricity and Magnetism Lab, or PHYS 211GL, General Physics I Lab, and PHYS 212L, General Physics II Lab .......................................................... 2

Departmental Requirements
CHEM 115, 116 or CHEM 111G, 112G, 217 ..................................................... 8-11
CHEM 313, 314, 315, Organic Chemistry I, II, and Lab .......................... 8
CHEM 371, Analytical Chemistry ................................................................. 4
CHEM 433 and 434, or CHEM 431 and 456, or CHEM 431 and 356 ...... 6
BCHE 140, Introduction to Biochemistry (S/U) ..................................... 1
BCHE 395, Biochemistry I ............................................................................. 3
BCHE 396, Biochemistry II ......................................................................... 3
BCHE 397, Experimental Biochemistry ................................................... 3
BCHE 440, Biochemistry Seminar (S/U) .................................................... 1
BCHE 446, Biochemistry III ........................................................................ 3
BCHE 494, Techniques in Genetic Engineering ....................................... 4

Electives: Sufficient other courses to bring total credits to 128, including 48 upper-division. CHEM 310V and CHEM 342 will not count.

DEGREE: Bachelor of Arts
MAJOR: Chemistry

The Bachelor of Arts curriculum is designed to provide flexibility with less depth in chemistry, physics, and mathematics. The program may be used by students planning extensive study in other areas and requires emphasis in a second field of study.

Nondepartmental Requirements
MATH 191G, 192, Calculus and Analytic Geometry I, II ............................... 6
PHYS 211G, 212, General Physics I, II, or PHYS 221G, 222G, General Physics for Life Sciences I, II ................................................................. 6
PHYS 211GL, 212L, General Physics Laboratory I, II ................................. 2

Emphasis area .................................................................................................................. 18
(Nine credits must be upper-division. See advisor for approval.)

Departmental Requirements
CHEM 313, 314, 315, Organic Chemistry I, II, and Lab .......................... 8
CHEM 356, Descriptive Inorganic Chemistry ........................................ 3
CHEM 357, Synthetic Inorganic Laboratory ............................................ 2
CHEM 371, Analytical Chemistry ................................................................. 4
CHEM 431, Physical Chemistry ................................................................. 3
CHEM 443, Senior Seminar ........................................................................... 1

Three additional chemistry credits (BCHE 341 or BCHE 395) can be used for electives but CHEM 310V and CHEM 342 will not count.

Electives: Sufficient other courses to bring total credits to 128, including 48 upper-division.

MINOR: Biochemistry

CHEM 111G, General Chemistry I, or CHEM 115, Principles of Chemistry I ...... 4
CHEM 112G, General Chemistry II, or CHEM 116, Principles of Chemistry II ...... 4
CHEM 313, Organic Chemistry I ................................................................. 3
CHEM 314, Organic Chemistry II ............................................................... 3
BCHE 395, Biochemistry ............................................................................. 3

One additional Biochemistry credit, but not including BCHE 341, Survey of Biochemistry ................................................................. 1

The following courses do not count towards minor: CHEM 100, Basic Chemistry; CHEM 110G, Principles and Applications of Chemistry; CHEM 217, General Chemistry II; CHEM 241, Introduction to Research; CHEM 310V, Chemistry and Society; CHEM 351, Special Topics; CHEM 442, Glass Blowing; CHEM 443, Senior Seminar; BCHE 341, Survey of Biochemistry. Toxicology and supplemental instruction (SI) courses are not accepted. Course provisionally allowed: CHEM 441, Advanced Research (3 credits maximum); CHEM 451, Special Topics (by petition only.)

MINOR: Chemistry

CHEM 111G, General Chemistry I, or CHEM 115, Principles of Chemistry ...... 4
CHEM 112G, General Chemistry II, or CHEM 116, Principles of Chemistry II .... 4
CHEM 211, Organic Chemistry, or CHEM 313, Organic Chemistry I ......... 3-4
CHEM 314, Organic Chemistry II ............................................................. 3
Sufficient additional upper division CHEM/BCHE credits to bring total upper division CHEM/BCHE credits to at least 9. Recommendations are below ................................................................. 2-6

Recommended courses for Physical/Analytical Chemistry emphases:
CHEM 396, Descriptive Inorganic Chemistry ............................................. 3
CHEM 371, Analytical Chemistry ................................................................. 4
CHEM 431, Physical Chemistry ................................................................. 3

Recommended courses for Biochemical emphasis:
CHEM 313, Organic Chemistry I ................................................................. 3
CHEM 314, Organic Chemistry II ............................................................... 3
BCHE 341, Survey of Biochemistry ........................................................... 3

The following courses do not count towards a minor in Chemistry: CHEM 100, Basic Chemistry; CHEM 110G, Principles and Applications of Chemistry; CHEM 217, General Chemistry II; CHEM 241, Introduction to Research; CHEM 310V, Chemistry and Society; CHEM 351, Special Topics; CHEM 442, Glass Blowing; CHEM 443, Senior Seminar; No BCHE courses except BCHE 341, Survey of Biochemistry. Toxicology and supplemental instruction (SI) courses are not accepted. Course provisionally allowed: CHEM 441, Advanced Research (3 credits maximum); CHEM 451, Special Topics (by petition only.)

MINOR: Environmental Chemistry

Students must pass the courses listed below. Check the undergraduate catalog for prerequisites.
CHEM 111G, General Chemistry I, or CHEM 115, Principles of Chemistry I ...... 4
CHEM 112G, General Chemistry II, or CHEM 116, Principles of Chemistry II ...... 4
CHEM 211, Organic Chemistry or CHEM 313, Organic Chemistry I .......... 3
CHEM 314, Organic Chemistry II ............................................................. 3
Sufficient additional upper division CHEM/BCHE credits to bring total upper division CHEM/BCHE credits to at least 9. Recommendations are below ................................................................. 2-6

Recommended courses for Physical/Analytical Chemistry emphases:
CHEM 396, Descriptive Inorganic Chemistry ............................................. 3
CHEM 371, Analytical Chemistry ................................................................. 4
CHEM 431, Physical Chemistry ................................................................. 3

Recommended courses for Biochemical emphasis:
CHEM 313, Organic Chemistry I ................................................................. 3
CHEM 314, Organic Chemistry II ............................................................... 3
BCHE 341, Survey of Biochemistry ........................................................... 3

The following courses do not count towards a minor in Environmental Chemistry: CHEM 100, Basic Chemistry; CHEM 110G, Principles and Applications of Chemistry; CHEM 310V, Chemistry and Society; CHEM 442, Glass Blowing. Supplemental instruction (SI) courses are not accepted.

COMMUNICATION STUDIES

Associate Professor Anne P. Hubbell, department head

Professors Hacker Asociate Professors Lindsey, Assistant Professors Morgan, Verser College Assistant Professors Brown, Bucker, Messal (575) 646-2801

DEGREE: Bachelor of Arts

MAJOR: Communication Studies

MINOR: Communication Studies

The communication studies program is designed to enhance students’ interpersonal skills, presentation skills, and critical thinking skills. Thus the successful graduate should be able to work effectively with people, assimilate, organize and analyze information, solve problems, make effective presentations, and show potential for leadership. The program prepares students for careers in several professions, such as training and development, public relations, law, advertising and sales, government service, mediation, customer relations, human resources, international service, fund raising, and the ministry.
MAJOR: Communication Studies

In addition to completing the general education requirements of the university and the college, students majoring in communication studies are required to complete 18 credits of core COMM courses and 18 credits of COMM electives for a total of 36 credits. Any exception to these policies requires department head approval.

All COMM courses must be completed with a grade of C or better.

Communication Studies Core Courses (18 credits)
COMM 265G, Principles of Human Communication.................................3
COMM 285, Survey of Communication Theory ........................................3
COMM 305, Communication Research Methods ........................................3
COMM 370, Organizational Communication ...........................................3
COMM 376, Communication and Culture ................................................3
COMM 384, Interpersonal Communication .............................................3

Communication Studies Elective Courses (18 credits)
To reach a total of 36 credits, students must complete successfully an additional 18 COMM credits of their choosing.

MINOR: Communication Studies
COMM 265G, Principles of Human Communication.................................3
Two of COMM 370, Organizational Communication; COMM 376, Communication and Culture; and COMM 384, Interpersonal Communication.............6
Three of COMM 253G, Public Speaking; COMM 285, Survey of Communication Theory; COMM 305, Communication Research Methods; COMM 351, Persuasion Theory and Practice; COMM 353, Advanced Public Speaking; COMM 377, Conflict Management; COMM 426, Small Group Communication; COMM 435, Psychology of Human Communication; COMM 440, Nonverbal Communication; COMM 450, Technological Communication; COMM 466, Nonverbal Communication; COMM 470, Leadership Communication; COMM 475, International Communication; COMM 480, Health Communication; COMM 490, Independent Study; COMM 491, Selected Topics

COMPUTER SCIENCE

Professor Enrico Pontelli, department head
Professors Leung, Ranjan; Associate Professors Cook, Pivkina, Tran; Assistant Professors Gianella, Ho, Pfeiffer, Song, Villaverde;
College Professor Steinor
(575) 468-3723

DEGREE: Bachelor of Science

MAJOR: Computer Science

MINORS: Algorithm Theory
Bioinformatics
Computer Systems
Software Development

The undergraduate computer science program prepares students for graduate study in computer science and for employment in positions involving the design, construction, and application of computer systems. Students should review their programs of study in consultation with their advisors each semester, preferably using the most recent Undergraduate Catalog. The department also offers a minor degree, with specialized tracks in algorithm theory, bioinformatics, computer systems, and software development. For more information on the Department of Computer Science, please visit the web site www.cs.nmsu.edu.

DEGREE: Bachelor of Science

MAJOR: Computer Science

General Requirements Exception
A grade of at least C must be earned in each of the courses taken to satisfy the departmental and nondepartmental requirements. No course may be counted as satisfying both a departmental and a nondepartmental requirement. No course taken to satisfy either a departmental or a nondepartmental requirement may be taken S/U.

Departmental Requirements (54-56 credits)

C S 171G, Introduction to Computer Science...........................................4

C S 271, Object-Oriented Programming..................................................4
C S 272, Introduction to Data Structures ..................................................4
C S 273, Machine Programming and Organization..................................4
C S or MATH 278, Discrete Mathematics for Computer Science ..............4
C S 370, Compilers and Automata Theory.................................................4
C S 371, Software Development..............................................................4
C S 372, Data Structures and Algorithms................................................4
C S 448, Senior Project, or C S 449, Senior Thesis ....................................3
C S 471, Programming Language Structure I...........................................3
C S 473, Architectural Concepts I............................................................3
C S 474, Operating Systems I.................................................................3
Two of the following: C S 451, Functional Programming; C S 461, Logic and Constraint Logic Programming; C S 475, Artificial Intelligence I; C S 476, Computer Graphics I; C S 481, Visual Programming; C S 482, Database Management Systems I; C S 483, Introduction to Robotics; C S 484, Computer Networks I; C S 485, User Interface Design; C S 486, Bioinformatics; C S 491, Parallel Programming; C S 492, Computer Systems Modeling and Simulation.............................................6
One of the following: C S 451, Functional Programming; C S 461, Logic and Constraint Logic Programming; C S 475, Artificial Intelligence I; C S 476, Computer Graphics I; C S 482, Database Management Systems I; C S 483, Introduction to Robotics; C S 484, Computer Networks I; C S 485, User Interface Design; C S 486, Bioinformatics; C S 491, Parallel Programming; C S 492, Computer Systems Modeling and Simulation.............................................6

Nondepartmental Requirements (29-39 credits)
COMM 265G, Public Speaking, or COMM 265G, Principles of Human Communication; or COMM 265G, Principles of Human Communication; or COMM 305, Communication Research Methods; or COMM 351, Persuasion Theory and Practice; or COMM 353, Advanced Public Speaking; or COMM 377, Conflict Management; or COMM 426, Small Group Communication; or COMM 435, Psychology of Human Communication; or COMM 440, Nonverbal Communication; or COMM 450, Technological Communication; or COMM 466, Nonverbal Communication; or COMM 470, Leadership Communication; or COMM 475, International Communication; or COMM 480, Health Communication; or COMM 490, Independent Study; or COMM 491, Selected Topics

ENGL 218G, Technical and Scientific Communication, or ENGL 311G, Advanced Composition, or ENGL 318G, Advanced Technical and Professional Communication.................................................................3

Second Language: Any 1120-113外国 language course (may require a 111 course as a prerequisite), or a departmental waiver acknowledging existing proficiency in a foreign language.................................................................3

MATH 290, Introduction to Linear Algebra, or MATH 480, Vector Spaces and Matrix Algebra.................................................................3
MATH 191G-192, Calculus and Analytic Geometry; or MATH 191G-192, Calculus and Analytic Geometry I, II.........................................................6
One of the following: MATH 331, Introduction to Modern Algebra; MATH 332, Introduction to Analysis; MATH 377, Introduction to Numerical Methods; MATH 392, Introduction to Ordinary Differential Equations; MATH 430, Combinatorial Mathematics; MATH 431, Algebraic Coding Theory; MATH 454, Mathematical Logic; MATH 455, Elementary Number Theory.................................................................3

STAT 470, Probability: Theory and Application, or STAT 371, Statistics for Engineers and Scientists I.................................................................3-4

Two lab science courses: PHYS 215G/215GL, Engineering Physics I/II; and one of the following: ASTR 110G, Introduction to Astronomy; BIOL 111G/111L, Natural History of Life/Lab; BIOL 211G/211L, Cellular and Organismic Biology/Lab; or PHYS 216G/216GL, Engineering Physics I/II; or PHYS 483, Introduction to Robotics; or C S 484, Computer Networks I; or C S 485, User Interface Design; or C S 486, Bioinformatics; or C S 491, Parallel Programming; or C S 492, Computer Systems Modeling and Simulation; or MATH 430, Combinatorial Mathematics; or MATH 431, Algebraic Coding Theory; or MATH 454, Mathematical Logic; or MATH 455, Elementary Number Theory.................................................................6

A course can satisfy only one requirement.

A Suggested Plan of Study for Students

The following plan applies to students who qualify to take MATH 191G.

Freshman Year (30 credits)
C S 171G, Introduction to Computer Science...........................................4
C S 272, Introduction to Data Structures..................................................4
C S 278, Discrete Structures .................................................................4
ENGL 111G, Rhetoric and Composition....................................................4
Foreign Language 111-112.................................................................8
AREA V: Humanities and Fine Arts.......................................................3
MATH 191G, Calculus I...........................................................................3

Sophomore Year (34 credits)
C S 271, Object Oriented Programming..................................................4
C S 273, Machine Programming and Organization..................................4
C S 371, Software Development..............................................................4
AREA V: Humanities and Fine Arts.......................................................3
Creative Media Institute

New Mexico State University’s Creative Media Institute (CMI) prepares students to become digital storytellers using state of the art, industry-standard tools. The program provides learning opportunities for newly admitted NMSU students, and for students with a Creative Media Technology associate degree from a NSMU community college or other two-year degree granting institution. The Bachelor of Creative Media provides a liberal arts background that will enable the student to pursue further education, professional training, or employment in a professional industry. Through concentrated study, CMI students can acquire skills that apply across multiple disciplines and industries including entertainment, medicine, science, forensics, information, education, government, and business fields.

The Bachelor of Creative Media is available with majors in either Digital Film Making or Animation and Visual Effects. The curriculum focuses on the art, craft, and the business of storytelling. Students choose an area of emphasis but they study all aspects of digital filmmaking and digital arts, whether they are aspiring animators, cinematographers, directors, editors, or writers. Theory and practice are integrated at every step as students manipulate text, sound, and images using industry-standard technology. CMI houses a state of the art digital projection system screening room, post-production lab, animation lab, and production space.

DEGREE: Bachelor of Creative Media

MAJORS: Animation and Visual Effects
Digital Film Making

MINORS: Animation and Visual Effects
Digital Film Making

The Creative Media Institute prepares students to be effective creators and critical thinkers in digital media. Study in the CMI program fosters graduates capable of collaborative expression based on a clear understanding of media culture, history, design and practice. CMI also offers students the opportunity for internships in digital video, animation, visualization and simulation, industrial video, and educational video at varied production facilities on campus.

Bachelor of Creative Media

Students must complete a min. 128 credits in the following areas: 69 credits in CMI/CMT/ENGL/THTR/ART; 35 cr. of Common Core, 6 cr. Viewing a Wider World; 18 cr. of electives

General Education Core Requirement
ENGL 116G, Perspectives on Film
MAJOR: Animation and Visual Effects
Choose 24 total credits total from the following (of which 18 credits must be #300 and above)

ART 151, Drawing II ..............................................................3
ART 259, Drawing III ............................................................3
ART 256, Introduction to Letter Forms and Typographic ..........3
ART 265, Sculpture I .............................................................3
CMI 231, History of Animation ................................................3
CMI 250, 2-D Animation .......................................................3
CMI 260, Foundations of Digital Animation .............................3
CMI 280, Modeling ..............................................................3
CMI 300, 3-D Animation .......................................................3
CMI 301, Sound Design II .....................................................3
CMI 323, Texture and Matte Painting ......................................3
CMI 328, Production Management .......................................3
CMI 332, 3-D Character Animation .......................................3
CMI 333, Light, Shade and Rendering ....................................3
CMI 341, Film Techniques for Animators ..............................3
CMI 350, Intermediate 2-D Animation ..................................3
CMI/THTR 357, Computer Scenographics .............................3
CMI 360, Previsualization ....................................................3
CMI 365, Personal Character Development ............................3
CMI 397, Practicum ............................................................1-3
CMI 398, Special Topics ......................................................3-9
CMI 400, Directed Studies ....................................................3-9
CMI 401, Motion Capture Techniques ....................................3
CMI 433, 3-D Sets and Environments ....................................3
CMI 441, Advanced Visual Effects ........................................3
CMI 450, Advanced 2-D animation ........................................3
CMI 451, Effects Animation and Dynamic Simulation .............3
CMI 460, Technical Direction for Animation ........................3
CMI 495, Internship ............................................................3
CMI 496, Media Law and Ethics ............................................3
CMI 497, Portfolio Design and Development .........................3
ENGL 427, Advanced Studies in Film and Digital Media ...........3
ENGL 436, Cultural Identity and Representation Across Media ....3
ENGL 437, Adv. Studies in Film & Digital Media Theory & Criticism 3

MAJOR: Digital Film Making
Choose 24 total credits total from the following (of which 18 credits must be #300 and above)

CMI 214, Acting for Film .......................................................3
CMI 301, Sound Design II .....................................................3
CMI/ENGL 309, Screenwriting .............................................3
CMI 310, Advanced Cinematography ....................................3
CMI 311, Editing II .............................................................3
CMI 318, Documentary Production & Narrative ....................3
CMI 328, Production Management .......................................3
CMI 338, Directing I ............................................................3
CMI 338, Directing II ...........................................................3
CMI 397, Practicum ............................................................1-3
CMI 398, Special Topics ......................................................3-9
CMI 400, Directed Studies ....................................................3-9
CMI 420, Short Film Production ............................................6
CMI/ENGL 480, Screenwriting II .........................................3
CMI 495, Internship ............................................................3
CMI 496, Media Law/Ethics ................................................3
CMI 497, Portfolio Design and Development .........................3
CMT 126**, Film Crew Training II .......................................9
CMT 156**, Film Crew Training II .......................................9
ENGL 336, Studies in Film ....................................................3
ENGL 427, Advanced Studies in Film and Digital Media .........3-9
ENGL 436, Adv. Studies in Film & Digital Media History & Culture 3-9
ENGL 437, Adv. Studies in Film & Digital Media Theory & Criticism 3-9

MINOR: Digital Film Making
Take 18 credits from the CMI, CMI/ENGL, CMI/THTR courses as listed in the Digital Filmmaking major. A minimum of 9 credits must be upper division.

MINOR Animation and Visual Effects:
Take 18 credits of CMI, CMI/ENGL, CMI/THTR courses as listed in the Animation and Visual Effects major. A minimum of 9 credits must be upper division.

CRIMINAL JUSTICE

Associate Professor Jim Maupin, department head
Professors Mays, Winfree; Associate Professor Bajarian; Bond-Maupin, Mau- pin; Assistant Professors Crowley, Duran, Greene, Keys, Posadas, Assistant College Professors Akins, DiMatteo
(575) 646-3316  http://crimjust.nmsu.edu

DEGREE: Bachelor of Criminal Justice

MINORS: Forensic Science
Security Technology and Intelligence Studies
Contemporary Social Studies

The criminal justice degree plan is broadly interdisciplinary in nature embracing the study of the humanities, law, natural, behavioral and social sciences. The curriculum seeks to balance theoretical inquiry with applied knowledge.

Students are prepared for careers in law enforcement, corrections, probation and parole, work with juveniles, and the related fields of forensics, security, and intelligence. Graduates have also been successful in law school and graduate programs in criminal justice. The undergraduate major consists of at least 36 credits in the major field, 21 of which must be numbered 300 or above (excluding C J 383, Internship in Criminal Justice).

The department offers two minors. The first is a minor in Security Technology and Intelligence Studies offered in conjunction with the Department of Engineering Technology. It consists of eighteen credits of approved course work in criminal justice and engineering technology. The second is an interdisciplinary minor in Forensic Sciences. Students interested in either of these minors should consult with the department head.

DEGREE: Bachelor of Criminal Justice

Lower Division (100- and 200-level) Departmental Requirements

C J 101G, Introduction to Criminal Justice .........................3
C J 205, Criminal Law I .....................................................3
C J 210, American Law Enforcement Systems ......................3
C J 230, Introduction to Corrections ....................................3
C J 250, Courts and the Criminal Justice System ..................3

NOTE: Prior to enrolling in upper division courses, lower division courses must be completed or final courses must be in progress.
Upper-Division (300- and 400-level) Departmental Requirements:
One course from the following: C J 330, Introduction to Criminal Justice Research; GOVT 300, Introduction to Public Administration; PSY 310, Experimental Methods; SOC 352, Social Research: Methods; SWK 467, Social Work Research I.

C J 301, Advanced Research Methods (or any statistics class) .................................................. 3
C J 449, Senior Seminar ........................................................................................................ 3

Crimes Classification: Each one criminal justice course (not to include C J 393, Internship in Criminal Justice, or any criminal justice required course) ................................................................................................................................. 12

Nondepartmental Requirements
Students seeking the BC degree must complete the College of Arts and Sciences second language requirement (see second language requirement under "College Degree Requirement" section of this catalog) or MATH 191G, and two viewing a Wider World courses, one each from two different colleges other than the College of Arts and Sciences.
A student must earn a C or better to receive credit for any departmental and nondepartmental requirement for the BCJ degrees.

General Electives: Sufficient to bring the total credits to 128, including 48 upper-division credits.

MINOR: Forensic Science
Forensic Science is the application of principles and techniques of scientific analysis in a legal context. Forensic scientists study physical evidence to resolve issues involving criminal investigations, environment analyses and similar areas of research.

A student must pass 18 credits with a grade of C or higher from the following curriculum to earn the Forensic Science minor. No courses may be taken S/U. Students must take at least 6 credits from departments outside their major(s). At least 9 credits in any minor must be upper division. Courses marked with *asterisks* have prerequisites, and students should check the catalog to ensure that they have taken prerequisites before enrolling in these courses. Students must register in the minor before enrolling in any upper division Criminal Justice courses.

The following curriculum represents minimum requirements for a minor. Students interested in a career in Forensic Science are encouraged to take additional courses from those listed below.

I. CORE COURSES: Five credits from among the following courses: C J 306, Criminal Procedure; C J 321, Criminal Investigation; C J 424, Forensic Law; PHYS 304, Forensics Physics; and/or TOX 453, Regulatory Toxicology.

II. TRACKS: Students must complete 9 credits from ONE of the following tracks:
(A) Laboratory Analysis, (B) Human Forensic Analysis, or (C) Forensic Psychology.

TRACK A. Laboratory Analysis (9 credits from the following):
*Biol 221/222L, General Microbiology/Lab, or *Biol 311/331L, General Microbiology/Lab; *Biol 330, Comparative Anatomy and Embryology; *Biol 354/354L, Physiology of Humans; **BchE 396, Biochemistry; *Chem 371, Analytical Chemistry; *Chem 421, Instrumental Analysis; **Tox 361, Basic Toxicology; **Tox 423, Environmental Toxicology; Phys 211/216L, General Physics I/General Physics Lab. ................................................................. 9

TRACK B. Human Forensic Analysis (9 credits from the following):
Take 9 credits from: Anth 315, Introduction to Archeology; Anth 355, Physical Anthropology; Anth 357, Medical Anthropology; Anth 388, Intermediate Field Session; Anth 398, Intermediate Historical Field Archaeology; Anth 430, Human Osteology and Forensic Anthropology; Anth 451, Practical Forensic Anthropology I, *Anth 330, Comparative Anatomy and Embryology; Anth 474*, Human Osteology; Anth 477, Fauna Analysis.... 9

Honors, Special Topics, or Independent Studies courses if approved by the Academic Dean, Department of Criminal Justice.

TRACK C. Forensic Psychology (9 credits from the following):
Principles of Behavior: *Psy 317, Social Psychology; *Psy 321, Personality; *Psy 324, Sexual Behavior; *Psy 330, Psychology and the Law; *Psy 338, Individual and Group Differences; *Psy 376, Evolutionary Psychology
Psychological Treatment: *Psy 302, Abnormal Psychology; *Psy 303, Community Psychology; *Psy 362, Behavior Modification; *Psy 374, Psychopharmacology and Toxicology; *Psy 445, Clinical Psychology; CJ 346, Psychology and the Justice System

TRACK D. General Track (9 credits from the following):

III. ADDITIONAL COURSE
Complete one course from areas I or II above not already completed.

MINOR: Security Technology and Intelligence Studies
A student must pass 18 credits with a grade of C or higher as outlined below. No courses may be taken S/U. A student must register in the minor before enrolling in any upper division Criminal Justice courses.

1. All students must complete one of the following: (3 credits)
ET/ICT 455, Analysis of Physical Security Systems ......................................................... 3
ET/ICT 457, Introduction to Information Security ............................................................ 3
ET/ICT 458, Database Design and Application ............................................................... 3

2. Any two C J courses from the following: (6 credits)
C J 321, Criminal Investigation and Intelligence ......................................................... 3
C J 412, Introduction to Security Technology and Loss Prevention ......................... 3
C J 425, Ethics in Criminal Justice .............................................................................. 3

3. Any three courses from the following, or any courses listed in #1 and #2 not completed: (9 credits)
C J 322, Organized Crime ......................................................................................... 3
C J 380, Introduction to Terrorism ............................................................................ 3
C J 441, Nature of Crime ........................................................................................... 3
C J 442, Race, Crime and Justice .................................................................................. 3
C J 451, Border Violence and Justice .......................................................................... 3
C J 490, Criminal Justice Planning & Crime Analysis .................................................. 3
C J 481, Hate Crimes and Domestic Terrorism ............................................................. 3
C J 482, Transnational Terrorism ............................................................................... 3
ET/ICT 339, Computer Forensics .............................................................................. 3
ET/ICT 377, Computer Networking (for use by students not majoring in ETE) ......... 3

PHYS 304, Forensics Physics ......................................................................................... 3

Three upper division C J courses may meet 3 of the 6-credit Wider World requirements for students majoring outside of the College of Arts & Sciences. Three upper division ET courses may meet 3 of the 6-credit Wider World requirements for students majoring outside of the College of Engineering.

MINOR: Contemporary Social Studies
See requirements for this minor under Department of History.

ECONOMICS and INTERNATIONAL BUSINESS

The Department of Economics in the College of Business offers an economics major to Bachelor of Arts candidates in the College of Arts and Sciences. (Additional information may be found under the Economics and International Business section in the College of Business chapter later in this catalog). (575) 646-2113

DEGREE: Bachelor of Arts
MAJOR: Economics

MINOR: Economics
The study of economics can lead to career positions in economics and related managerial and technical specialties in businesses, financial institutions, government, and education. Qualified students are also prepared for graduate study in economics, business administration including management, and law. Students who plan to pursue graduate work in economics or to become professional economic analysts should consider taking supplementary courses in accounting, computer science, mathematics, quantitative economics and/or statistics, in addition to those listed below as required.

A student must earn a grade of C or better in both the departmental and nondepartmental requirements.

Nondepartmental Requirements
ACCT 251, Management Accounting; or ACCT 252, Financial Accounting ........ 3
MATH 120, Intermediate Algebra .................................................................................. 3
MATH 142G, Applied Mathematics for the Biological and Social Sciences .............. 3
ENGLISH

Monica F. Torres, department head

Professors: Boswell, Brown, Burnham, Linkin, Payne, Wiget; 
Associate Professors: Miller-Tomlinson, Rouke, Schirmer, Thatcher, Torres, Voisine
Assistant Professors: Almjeld, Bradburd, Cull, Garay, Hagelin, Sheppard, Smith, Valentine; 
College Professors: LaPorte, Lavender; College Associate Professors: Murrell, Nims; College Assistant Professors: LaTorra, Treon; College Instructors: Cervantes, Conley, Himmelheber

DEGREE: Bachelor of Arts

MAJOR: English

EMPHASIS: English

EMPHASIS: Creative Writing

EMPHASIS: Literature, Language, and Culture

EMPHASIS: Rhetoric, Digital Media, and Professional Communication

MINORS: English

Creative Writing

Rhetoric and Professional Communication

Medieval and Early Modern Studies

The Department of English offers the B.A. in English as the cornerstone of studies in the humanities. This rich and versatile major provides students with a source of personal enrichment as well as verbal, analytical, and cultural skills that are readily adaptable to a variety of careers. The English curriculum includes courses in literature, language, creative writing, technical and professional communication, rhetoric, cultural studies, digital media and film. Our majors go on to succeed in a wide range of professions, including secondary and post-secondary education, business, government, and law. We offer four different major emphases that students can tailor to their individual needs, in (1) English, (2) Creative Writing, (3) Literature, Language, and Culture, and (4) Rhetoric, Digital Media, and Professional Communication. The department provides strong and personalized advising designed to help students reach their full academic potential and future career goals.

The department also offers minors in English, creative writing, medieval and early modern studies, and rhetoric and professional communication. Further information about career opportunities, emphases, and minors is available from the Department of English. Students who wish to pursue English as a double major may eliminate one elective from the departmental requirements.

DEGREE: Bachelor of Arts

MAJOR: English

Emphasis: English

Departmental Requirements

In addition to meeting the English basic skills requirement (see basic academic skills in the index), the student majoring in English must complete 42 credits in English beyond ENGL 111G, Rhetoric and Composition, satisfying the following requirements:

A. Twelve credits from the following courses:

- ENGL 220G, Introduction to Creative Writing
- ENGL 243, The Bible as Literature
- ENGL 251, Survey of American Literature I
- ENGL 252, Survey of American Literature II
- ENGL 261, Masterpieces of Western European Literature
- ENGL 262, Masterpieces of Western European Literature
- ENGL 263, History of Argument
- ENGL 271, English Literature I
- ENGL 272, English Literature II

** Students may count 1 or 2 of the following Honors courses towards the requirement of 6 hours of 300-level electives: HON 325V, 345V, 348V, 365V, 369V, 376V, 379V, and 382V. Students may not take both ENGL 325V and HON 325V or ENGL 392V and HON 392V.

B. Three credits from ENGL 301, Theory and Criticism: Rhetoric and Culture; ENGL 302, Theory and Criticism: Literature and Culture; or ENGL 303, Theory and Criticism: Film, Media, and Culture

C. Six additional credits from English courses numbered 398-399**

** Students may count 1 or 2 of the following Honors courses towards the requirement of 6 hours of 300-level electives:

- ENGL 325V, 345V, 348V, 365V, 369V, 376V, 379V, and 382V. Students may not take both ENGL 325V and HON 325V or ENGL 392V and HON 392V.

D. Nine additional credits from English courses numbered 400-499

Emphasis: Creative Writing

Departmental Requirements

In addition to meeting the English basic skills requirement (see basic academic skills in the index), the student majoring in Creative Writing must complete 42 credits in English beyond ENGL 111G, Rhetoric and Composition, satisfying the following requirements:

A. Twelve credits from the following courses:

- ENGL 220G, Introduction to Creative Writing
- ENGL 243, The Bible as Literature
- ENGL 251, Survey of American Literature I
- ENGL 252, Survey of American Literature II
- ENGL 261, Masterpieces of Western European Literature
- ENGL 262, Masterpieces of Western European Literature
- ENGL 263, History of Argument
- ENGL 271, English Literature I

B. Three credits of ENGL 310, Critical Writing

C. Three credits from ENGL 301, Theory and Criticism: Rhetoric and Culture; ENGL 302, Theory and Criticism: Literature and Culture; or ENGL 303, Theory and Criticism: Film, Media, and Culture

D. Six additional credits from English Courses numbered 398-399**

** Students may count 1 or 2 of the following Honors courses towards the requirement of 6 hours of 300-level electives:

- ENGL 325V, 345V, 348V, 365V, 369V, 376V, 379V, and 382V. Students may not take both ENGL 325V and HON 325V or ENGL 392V and HON 392V.
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 272, English Literature II*</td>
<td>3</td>
</tr>
<tr>
<td>*Students may make 1 or 2 of the following substitutions: HON 229G for ENGL 243; HON 220G, 231G, 234G, or 239G for ENGL 271; HON 220G, 234G, or 239G for ENGL 281; HON 231G for ENGL 272.</td>
<td></td>
</tr>
</tbody>
</table>

B. Three credits of ENGL 310, Critical Writing

C. Three credits from ENGL 301, Theory and Criticism: Rhetoric and Culture; ENGL 302 Theory and Criticism: Literature and Culture; or ENGL 303, Theory and Criticism: Film, Media, and Culture

These 18 credits should be completed before the student enrolls in 400 level courses.

D. Six to nine credits in Creative Writing workshops (minimum of two different courses): ENGL 304, Creative Writing: Prose; ENGL 306, Creative Writing: Poetry; ENGL 307, Creative Writing: Creative Nonfiction; ENGL 308, Creative Writing: Playwriting; ENGL 309, Screenwriting I

E. Six to nine credits in advanced Creative Writing Workshops: ENGL 413, Advanced Creative Writing: Prose; ENGL 414: Advanced Creative Writing: Poetry; ENGL 415, Advanced Creative Writing: Playwriting; ENGL 480, Screenwriting II

Students should complete a total of fifteen hours in workshop courses.

F. Six credits of ENGL 354, Form and Technique in Fiction, ENGL 356, Form and Technique in Poetry, or ENGL 358, Form and Technique in Playwriting

G. Three additional credits from English courses numbered 300-499.

**Emphasis: Literature, Language, and Culture**

**Departmental Requirements**

In addition to meeting the English basic skills requirement (see basic academic skills in the index), the student pursuing an emphasis in Literature, Language, and Culture must complete 42 credits in English beyond ENGL 111G.

A. Twelve credits from the following courses:

- ENGL 220G, Introduction to Creative Writing
- ENGL 243, The Bible as Literature
- ENGL 251, Survey of American Literature I
- ENGL 252, Survey of American Literature II
- ENGL 261, Masterpieces of Western European Literature, Beginnings to the Renaissance
- ENGL 262, Masterpieces of Western European Literature, Post-Renaissance to Modern
- ENGL 263, History of Argument
- ENGL 271, English Literature I
- ENGL 272, English Literature II

*Students may make 1 or 2 of the following substitutions: HON 229G for ENGL 243; HON 220G, 231G, 234G, or 239G for ENGL 271; HON 220G, 234G, or 239G for ENGL 281; HON 231G for ENGL 272.

B. Three credits of ENGL 310, Critical Writing

C. Three credits from ENGL 301, Theory and Criticism: Rhetoric and Culture; ENGL 302, Theory and Criticism: Literature and Culture [Recommended]; or ENGL 303, Theory and Criticism: Film, Media, and Culture

These 18 credits should be completed before the student enrolls in 400 level courses.

D. Six credits from English courses numbered 298-399, selected from the following:

- ENGL 321V, Modern European Drama
- ENGL 322, American Drama
- ENGL 325V, Contemporary International Literature
- ENGL 326, Cultural Identity and Representation Across the Media
- ENGL 327V, Shakespeare around the Globe
- ENGL 328V, Literature of Science Fiction and Fantasy
- ENGL 329, Studies in Drama
- ENGL 330, Studies in Poetry
- ENGL 335V, Studies in the Novel
- ENGL 336, Studies in Fiction
- ENGL 337, Chicano Literature
- ENGL 340, Studies in American Literature
- ENGL 341V, American Indian Literature
- ENGL 342, Studies in British Literature
- ENGL 349, The Short Story
- ENGL 351, Folklore
- ENGL 361, Southwest Folklore
- ENGL 363, Literature for Children and Young Adults

E. Eighteen credits distributed as follows:

- Three credits from ENGL 438, Literature of the American Renaissance; ENGL 439, American Realism and Naturalism; ENGL 440, Harlem Renaissance and Modernism; ENGL 441, Modern and Contemporary American Fiction; ENGL 442 Modern and Contemporary American Poetry.
- Three credits from ENGL 405 or 407
- Three credits from ENGL 408 or 409

Nine additional credits from English courses numbered 400-499, selected from the following:

- ENGL 400, Independent Study (with advisor approval)
- ENGL 405, Chaucer
- ENGL 406, Early Modern Poetry and Prose
- ENGL 407, Milton
- ENGL 408, Shakespeare I
- ENGL 409, Shakespeare II
- ENGL 417, Advanced Study in Critical Theory
- ENGL 421, Advanced Study in a Literary Period or Movement
- ENGL 422, Advanced Study in a Literary Form or Genre
- ENGL 423, Advanced Study in a Major Author
- ENGL 424, Advanced Study in a Major Text
- ENGL 425, Advanced Study in Comparative Literature
- ENGL 426, Special Topics in Critical Theory
- ENGL 427, Advanced Study in Film and Digital Media
- ENGL 428, Drama from the Renaissance to the Restoration
- ENGL 429, British Romanticism
- ENGL 432, Gothic Literature
- ENGL 433, Victorian Literature
- ENGL 436, Advanced Study in Film and Digital Media: History and Culture
- ENGL 437, Advanced Study in Film and Digital Media: Theory and Criticism
- ENGL 438, Literature of the American Renaissance
- ENGL 439, American Realism and Naturalism
- ENGL 440, Harlem Renaissance and Modernism
- ENGL 441, Modern and Contemporary American Fiction
- ENGL 442, Modern and Contemporary American Poetry
- ENGL 444, Modern British Fiction
- ENGL 445, Postmodern Fiction
- ENGL 451, Practicum in the Grammar of American English
- ENGL 452, History of the English Language
- ENGL 453, World Literatures
- ENGL 454, Postcolonial Literature
- ENGL 456, Ethnic Studies in US Literature and Culture
- ENGL 457, American Indian Literature
- ENGL 458, Latino/a Literature and Culture
- ENGL 459, Black Literature and Culture in the United States
- ENGL 461, Women’s Literature
- ENGL 462, Gender and Popular Culture
- ENGL 463, Gender and Language
- ENGL 464, Gender and Literature
- ENGL 466, Hollywood and Film
- ENGL 468, Film and Literature
- ENGL 469, Cultural Studies; Literature and Theory
- ENGL 492, Old English
- ENGL 493, Middle English Textual Cultures
- ENGL 494, Shakespeare for Educators

**Emphasis: Rhetoric, Digital Media, and Professional Communication**

**Departmental Requirements**

In addition to meeting the English basic skills requirement (see basic academic skills in the index), the student pursuing an emphasis in Rhetoric, Digital Media, and Professional Communication must complete 42 credits in English
MINOR: English

Students not earning a bachelor's degree in English are eligible to pursue a minor in English. Students must earn 18 credits from the approved courses below. Students may request approval for other courses clearly related to the minor from the undergraduate advisor in the Department of English. Students earning a B.A. in English must earn at least 6 credits approved by the Department of English undergraduate advisor beyond those earned for the major in order to earn a minor in Creative Writing.

A. Six credits from the following courses:
   1. ENGL 220G, Introduction to Creative Writing
   2. ENGL 243, The Bible as Literature
   3. ENGL 251, Survey of American Literature I
   4. ENGL 252, Survey of American Literature II
   5. ENGL 261, Masterpieces of Western European Literature, Beginnings to the Renaissance
   6. ENGL 262, Masterpieces of Western European Literature, Post-Renaissance to Modern

B. Three credits from the following courses:
   1. ENGL 301, Theory and Criticism: Rhetoric and Culture
   2. ENGL 302, Theory and Criticism: Literature and Culture
   3. ENGL 303, Theory and Criticism: Film, Media, and Culture
   4. ENGL 310, Critical Writing
   5. ENGL 311G, Advanced Composition
   6. ENGL 319, Advanced Creative Writing

C. Six credits from English courses numbered 300-499.
D. Three additional credits from English courses numbered 400-499.

MINOR: Rhetoric and Professional Communication

Students not earning a bachelor's degree in English are eligible to pursue a minor in Rhetoric and Professional Communication. Students must earn 18 credits from the approved courses below. Students may request approval for other courses clearly related to the minor from the undergraduate advisor in the Department of Rhetoric and Professional Communication. Students earning a B.A. in English must earn at least 6 credits approved by the Department of Rhetoric and Professional Communication beyond those earned for the major in order to earn a minor in Rhetoric and Professional Communication.

A. Three credits from the following courses:
   1. ENGL 220G, Introduction to Creative Writing
   2. ENGL 243, The Bible as Literature
   3. ENGL 251, Survey of American Literature I
   4. ENGL 252, Survey of American Literature II
   5. ENGL 261, Masterpieces of Western European Literature, Beginnings to the Renaissance
   6. ENGL 262, Masterpieces of Western European Literature, Post-Renaissance to Modern

B. Six credits from ENGL 304, Creative Writing: Prose; ENGL 306, Creative Writing: Poetry; ENGL 307, Creative Writing: Creating Nonfiction; ENGL 308, Creative Writing: Playwriting; ENGL 309, Screenwriting I; ENGL 413, Advanced Creative Writing in Prose Workshop; ENGL 414, Advanced Creative Writing in Poetry Workshop; ENGL 415, Advanced Creative Writing in Playwriting Workshop, and ENGL 480, Screenwriting II. All Creative Writing workshops may be taken more than once.

C. Six credits from ENGL 413, Advanced Creative Writing in Prose Workshop; ENGL 414, Advanced Creative Writing in Poetry Workshop; ENGL 415, Advanced Creative Writing in Playwriting Workshop, and ENGL 480, Screenwriting II. All Creative Writing workshops may be taken more than once.
D. Three additional credits from English literature courses numbered 300 and above.
ENGL 262, Masterpieces of Western European Literature, Post-Renaissance to Modern .................................................................3
ENGL 263, History of Argument ..........................................................................................................................................................3
ENGL 271, English Literature I .........................................................................................................................................................3
ENGL 272, English Literature II .........................................................................................................................................................3

*Students may make 1 or 2 of the following substitutions: HON 229G for ENGL 243, HON 229G, 231G, 234G, or 2398 for ENGL 271; HON 229G, 234G, or 2398 for ENGL 287; HON 231G for ENGL 272.

B. Three credits from the following courses:
ENGL 203G, Business and Professional Communication ..............................................................................................................3
ENGL 211G, Writing in the Humanities and Social Sciences .............................................................................................................3
ENGL 219G, Technical and Scientific Communication .........................................................................................................................3
ENGL 311G, Advanced Composition ..................................................................................................................................................3
ENGL 318G, Advanced Technical and Professional Writing ..................................................................................................................3

C. Twelve credits of Rhetoric and Professional Communication courses numbered 300 and above.

MINOR: Medieval and Early Modern Studies
Students must earn 18 credits from the approved course lists below. At least 9 credits must be upper division. No more than 9 credits may be taken under faculty in any department. Students may request approval for other courses clearly related to Medieval and/or Early Modern Studies from the undergraduate advisor in the Department of English in consultation with faculty in medieval and early modern studies. Courses marked by asterisks (*) are approved for the minor only when their topics are appropriate. Students must seek approval to count these courses for the minor from the undergraduate advisor in the Department of English.

ART 295, Introduction to Art History I; ART 315, Introduction to Art History II; *ART 300, Special Topics in Art History; ART 328, Baroque Art and Architecture in Northern Europe; ART 333, Baroque Art and Architecture in Spain, Italy, and Spanish Latin America; *ART 477, Independent Research Projects in Art History; *ART 478, Seminar: Selected Topics in Art History; ENGL 242, Introduction to Shakespeare; ENGL 243, The Bible as Literature; ENGL 261, Masterpieces of Western European Literature, Beginnings to the Renaissance; ENGL 271, Survey of English Literature I; *ENGL 300, Women Writers; ENGL 390V, The Arthurean Tradition; ENGL 392V, Mythology; ENGL 401, Advanced Study in English Literature I; ENGL 405, Chaucer; ENGL 407, Milton; ENGL/THTR 408, Shakespeare I; ENGL/THTR 409, Shakespeare II; *ENGL 421, Advanced Study in a Literary Period or Movement; *ENGL 422, Advanced Study in a Literary Form or Genre; *ENGL 423, Advanced Study in a Major Author; *ENGL 424, Advanced Study in a Major Text; ENGL/THTR 437, English Drama to 1642; ENGL 452, History of the English Language; ENGL 463, Advanced Study in English Literature I; FREN 381, Survey of French Literature I; *FREN 451, Special Topics in French; GER 391, History of the German Language; GER 431, German Lyric Poetry; HIST 101G, Roots of Modern Europe; HIST 211G, East Asia to 1600; HIST 221G, Islamic Civilization to 1800; HIST 311, Colonial Latin America; HIST 323, Cultural History of Later Imperial China; HIST 372, The Roman World; HIST 375, Europe and the New World; HIST 381V, Early Russia; HIST 383, Germany; HIST 387, Spain; HIST 388, Women in Europe I; HIST 392, Virgin Queen: Elizabeth of England; HIST 392, Stuart England: Century of Revolutions; *HIST 400, Special Topics; HIST 433, Renaissance and Reformation; HIST 434, Age of Absolutism and the Baroque; HIST 442/443, Art and Life in Renaissance Italy; HIST 451, Colonial Mexico; HIST 471, China through the Ming Dynasty; HON 220G, The World of the Renaissance: Discovering the Modern; HON 222G, Foundations of Western Culture; HON 224G, God and Nature; HON 226G, The New Testament as Literature; HON 234G, The World of Art; HON 236G, Medieval Understanding: Literature and Culture in the Middle Ages; HON 238G, Art and Mythology; HON 239G, Sexuality in Christianity and Islam; *HON 300, Thesis; MUS 302, History and Literature of Music to 1750; MUS 430, Music of the Middle Ages and Renaissance; MUS 421, Music of the Baroque Era; PHIL 342, Medieval Philosophy; PHIL 344, Modern Philosophy; *PHIL 363/463, Directed Readings; *SPAN 306, Special Topics; SPAN 386, Survey of Spanish Peninsular Literature through the Seventeenth Century; THTR 312, Acting Shakespeare; *W V S 250, Special Topics............18

GEORGY

Professor John B. Wright, department head
Professor Cerniak, Wright; Associate Professors Brown, DeMers; Assistant Professors Buenemann, Campell, Dugas; Adjunct Faculty Laliberte, Rango, Stein, Whitford; College Instructors Huck, Rich

DEGREE: Bachelor of Science
MAJOR: Geography

MINORS: Geography
Geographic Information Systems

The Department of Geography emphasizes the interaction of human activities with the environment. Both geography and planning programs prepare students for professional positions in government or the private sector. The undergraduate geography program also prepares students for graduate study while the planning program emphasizes preparation for a professional career in urban planning.

The requirements for teaching fields in earth sciences are listed under the Department of Curriculum and Instruction in the College of Education chapter.

A student must earn a grade of C or better for any major or minor requirements offered by the Department of Geography.

DEGREE: Bachelor of Science
MAJOR: Geography

The geography curriculum prepares students for a broad range of opportunities in government, business, and education, areas concerned with human-environment problems and place-to-place relations. Preparation for advanced graduate studies is also provided. Major requirements incorporate analytical and GIS skills, sample the spectrum of systematic geography, and expose the student to the unique characteristics of selected regions of the earth. A student must earn a grade of C or better in all courses taken for the major.

Departmental Requirements (35 credits)

GEOG 111G, Geographic of the Natural Environment .................................................4
GEOG 112G, World Regional Geography or GEOG 120G, Culture and Environment .................................................................3
GEOG 281, Map Use and Analysis ..............................................................................3
GEOG 351, Biogeography or GEOG 357, Meteorology and Climatology ...............3
GEOG 353, Geomorphology .......................................................................................3
GEOG 363V, Cultural Geography .............................................................................3
GEOG 365V, Urban Geography ................................................................................3
GEOG 381, Cartography and Geographic Information Systems ............................3
GEOG 382, Aerial Photo Interpretation ....................................................................3
GEOG 481, Fundamentals of Geographic Information Systems ............................4

Choose one of the following Regional Geography courses:
GEOG 225V, New Mexico and the American West; GEOG 238V, U.S. National Parks; GEOG 328V, Geography of Latin America; or GEOG 331V, Europe...

Nondepartmental Requirements (9 credits)

ENGL 218G, Technical and Scientific Communication or ENGL 318G, Advanced Technical and Professional Communication .................3
E ST 311G, Introduction to Statistical Applications or STAT 251G/2 ST 251, Statistics for the Behavioral Sciences .........................................................3
MATH 120, Intermediate Algebra ..............................................................................3

Electives: Sufficient to bring total to 128, including 48 upper-division.

MINOR: Geography

A student may not earn both a B.S. in Geography and a minor in Geogrophy. At least 9 credits must be upper division.

GEOG 111G, Geographic of the Natural Environment .................................................4
GEOG 120G, Culture and Environment ..................................................................3
GEOG 281, Map Use and Analysis, or GEOG 381, Cartography and Geographic Information Systems, or GEOG 382, Aerial Photo Interpretation .................................................................3

Three of GEOG 257, Introduction to Meteorology; GEOG 351, Fundamentals of Biogeography; GEOG 357, Climatology; GEOG 363V, Economic Geography; GEOG 365V, Cultural Geography; GEOG 453, Fluvial and Environmental geomorphology; and GEOG 467, Transportation Geography .................................................................9

MINOR: Geographic Information Systems

Students must earn at least 18 credits, of which at least 9 must be upper division. For students earning a B.S. in Geography, GEOG 281, GeoG 381, and GEOG 382 may not be counted for this minor. For students earning a B.S. in City and Regional Planning, GEOG 281 may not be counted for this minor, and whichever of GEOG 381 or 382 is counted towards the major cannot be counted for this
minors. Students may need to meet prerequisites or obtain a waiver of prerequi-
sites for some courses. Please check the undergraduate catalog.

BCS 210, Business Programming Using Visual Tools, or BCIS 350, System
Analysis and Modeling, or BCS 475, Database Management
Systems .................................................................3

ET 120, Computer and Presentation software, or ENGL 218G, Technical and
Scientific Communication ........................................3

GEOG 281, Map Use and Analysis, or GEOG 381, Cartography and
Geographic Information Systems ..................................3

GEOG 382, Aerial Photo Interpretation, or GEOG 482, Digital Image
Processing .................................................................3

GEOG 481, Fundamentals of Geographic Information systems, or GEOG 487,  
GIS Practicum ...........................................................3-4

Honors independent study, and graduate courses as appropriate if approved by
Department of Geography. Graduate courses that may automatically be in-
cluded are GEOG 521, Geographic Information Systems Applications; GEOG 581, GIS Modeling and System Design; GEOG 584, Seminar in Geographic
Information Systems; and GEOG 587, Advanced Topics in Geographic
Information Science. Students may also substitute as many as 6 additional
credits from this area for courses in some of the above areas if approved by
the Department of Geography ........................................3

GEOL 305V, Fossils and the Evolution of Life ........................................3

GEOL 360, General Geochecy ..............................................3

GEOL 399, Igneous and Metamorphic Petrology .................................3

GEOL 420, Stratigraphy and Sedimentology .......................................3

GEOL 449, The Geological Profession .............................................3

GEOL 470, Structural Geology .................................................3

GEOL 490, Field Geology .....................................................3

GEOL 491, Tectonic Evolution of North America ..................................3

GEOL 495, Geology Field Camp ..................................................4

GEOL 465, Introduction to Isotope Geology .........................................3

GEOL 474, Ground Water Geology ...............................................3

GEOL 475, Geology of Mineral Resources ........................................3

GEOL 476, Petroleum Geology ..................................................3

GEOL 480, Seminar (with subtitle) ................................................3

GPHY 330, Introduction to Geophysics .............................................3

GPHY 452, Principles of Geophysics I ............................................3

GPHY 453, Principles of Geophysics II ..........................................3

SOIL 252, Soils .................................................................3

Other electives, including those selected to satisfy the college and univer-
sity requirements, must bring the total credits to 128, of which 48 must be upper-
division (300 or above).

Students must work closely with their advisors in order to plan programs 
that allow them to meet all requirements and earn sufficient upper-division 
credit.

Any other equivalent programming course (e.g, Pascal, html) or engineer-
ing course (e.g. C EN 151, A EN 151) may be substituted for C S 167 or C E 151.

MINOR: Geology

A student cannot earn a B.S. in Geology and also earn a minor in Geology.

GEOL 111G, Survey of Geology, or HON 219G, Earth, Life and Time ........4

GEOL 309V, Fossils and the Evolution of Life .....................................3

Eleven credits from among the following courses (courses with Geology prerequi-
tes other than GEOL 111G or HON 219G are asterisked): GEOL 295, En-
vironmental Geology; GEOL 310, Mineralogy; *GEOL 312, Optical Mineralogy;
GEOL 335V, Earthquakes, Volcanoes, Hurricanes, and Floods; GEOL 353,
Geomorphology; GEOL 360 General Geochemistry; *GEOL 399, Igneous 
and Metamorphic Petrology; *GEOL 420, Stratigraphy and Sedimentology;
*GEOL 465, Introduction to Isotope Geology; *GPHY 470, Structural Geol-
ogy; *GEOL 475, Geology of Mineral Resources; *GEOL 477, Special Prob-
lems (variable credit); *GEOL 478, Petroleum Geology; *GEOL 480, Seminar 
(variable credit); GEOL 490 Field Geology; GEOL 491, Tectonic Evolution 
of North America, and GEOL 495, Geology Field Camp .....................11

GOVERNMENT

Professor Nancy Baker, department head

Professors Baker, Harvey, Lapid, Taggart; Associate Professors Ackleson, But-
er, Garcia, Prindle, Winn; Assistant Professors Fuentes, Medina;

College Associate Professor Seckler

(575) 646-4585; (575) 646-2052 (fax)

DEGREE: Bachelor of Arts

MAJOR: Government

SUPPLEMENTARY MAJOR: Law and Society

MINORS: Government

American Government and Politics

Comparative Politics
International Relations
Public Administration
Political Theory
Public Law
Global Political Economy
United States/Mexico Border Studies
Contemporary Social Studies

The study of government (political science) blends the strengths of a liberal arts education in public affairs with a preparation for careers in federal, state, and local government, in law, in management and public administration, in public policy analysis and for general opportunities for college graduates.

The government major program calls for a thorough preparation in the study of government as described below with the opportunity for those interested in specific careers to concentrate in one of the subfields: American government and politics, public law, public administration and policy, comparative politics, political theory and international relations.

The department also offers a supplementary major in law and society, which is supportive of law-related careers.

A government minor program involving 18 credits of course work is also offered. A disciplinary field minor or a general minor may be selected. In addition, the department administers interdisciplinary minors in Global Political Economy and U.S.-Mexico Border Studies.

DEGREE: Bachelor of Arts
MAJOR: Government

Departmental Requirements
GOVT 106G, American National Government (or HON 249G American Politics in a Changing World) ........................................................................................................3
GOVT 110G, Introduction to Political Science (or HON 249G The Citizen and the State: Great Political Issues) .................................................................................................3

One upper-division course in four of the six fields: public administration and policy (20/30 series), American government and politics (40/50 series), international relations (60 series, may include HON 304V), comparative politics (70 series, may include HON 307V), political theory (80 series, may include GOVT 380V), and public law (90 series). Additional credits in government to bring total credits in major to 33, including 20 upper-division. Majors will not be allowed to register in upper-division government courses until lower-level departmental requirements are completed.

Degree candidates must also complete GOVT 350 or 3 credits of course work in social science research methods. A list of approved courses is available in the department office.

Twelve hours of internship credit also are available. However, only three hours count toward the major. Internship guidelines are available in the department office.

SUPPLEMENTARY MAJOR: Law and Society

The Department of Government also coordinates a supplementary major in law and society that may be taken in addition to a regular major. The program is designed to provide a multidisciplinary preprofessional education for undergraduates who plan to attend law school or who contemplate careers in fields closely related to the legal profession, such as government, social work and law enforcement.

Departmental Requirements

The supplementary major consists of 24 credits chosen from the courses listed below. At least 18 credits must be earned in upper-division courses and 6 credits must be earned fromlisted courses outside the student’s primary major. Candidates for the Law and Society degree must declare their supplementary major prior to completing the last 9 credits of the program.

Core Courses (select three of the five options)
1. C J 205, Criminal Law I .................................................................................................3
2. GOVT 395, Law and Society .........................................................................................3
3. GOVT 391, Constitutional Law .................................................................................3
4. GOVT 394, Judicial Process .........................................................................................3
5. One of the following three courses: C J 306, Criminal Procedural Law; GOVT 392, Civil Liberties; JOUR 493/HON 377, Mass Communications Law (same as GOVT 483, COMM 493) ........................................3

Communication Skills (select one)
COMM 351, Persuasion Theory and Practice .................................................................3

COMM 353, Advanced Public Speaking ..........................................................3
ENGL 311G, Advanced Composition .........................................................................3
PHIL 348, Writing Philosophy ..................................................................................3

Critical Thinking Skills (select one)
GOVT 384, Contemporary Political Theory .................................................................3
PHIL 211G, Informal Logic ..........................................................................................3
PHIL 312, Formal Logic ...............................................................................................3
PHIL 313, Inductive Logic and Probability .................................................................3

Jurisprudence (select one)
C J 307, Law of Evidence ..........................................................................................3
C J 424, Forensic Law .................................................................................................3
GOVT 385, American Political Thought .........................................................................3
PHIL 376, Philosophy of Law ......................................................................................3
PSY 330, Psychology and the Law ................................................................................3
SOC 391, Crime and Society ........................................................................................3
SOC 485, Sociology of Law ........................................................................................3

Legal Policy Issues (select two)
BLAW 316, Legal Environment of Business .................................................................3
BLAW 385V/HON 385V, Consumers and the Law .........................................................3
C J 250, Courts and the Criminal Justice System ..........................................................3
C J 332, Correctional Law ...........................................................................................3
C J/GOVT/HIST/JOUR/SOC 399, New Mexico Law ..................................................3
GOVT 345, The Supreme Court ...................................................................................3
GOVT 390, Special Topics in Public Law ......................................................................3
GOVT 396, International Law .......................................................................................3
GOVT 397, Law and Sex ..............................................................................................3
HIST 407, Recent United States, 1960-Present ............................................................3
HLS 489, Ethics and Jurisprudence for Health Personnel .............................................3
HON 335V, Legal Issues in Modern Society .................................................................3
HON 350V, Law, Culture, and Conflict .......................................................................3
HON 352V, Crime, Justice, and Society .......................................................................3
HRTM 304, Hospitality Law .........................................................................................3
PLAN 301, Legal Aspects of Planning ...........................................................................3
SOC 392, Juvenile Delinquency ...................................................................................3
SOC 475, Advanced Social Stratification ......................................................................3

Minors

The Department of Government offers a general Government minor and specialized sub field minors. In addition, the department offers two minors shared with the Department of Economics: Global Political Economy and U.S./Mexico Border Studies and a shared minor with History and other departments: Contemporary Social Studies. A student can not earn both a B.A. in Government and a general minor in Government. Students may not count S/U grades unless all grades in a particular course are S/U. All courses must be passed with grades of C or better.

MINOR: Government
GOVT 106G, American National Government (or HON 249G) ................................3
GOVT 110G, Introduction to Political Science (or HON 249G) ..................................3

Twelve additional credits, of which at least 9 are upper division, including 3 upper-division courses from different subfields. The subfield series include courses in the 20/30 series (public administration and policy), 40/50 series (American government and politics), 60 series and HON 304V (international relations), 70 series and HON 307V (comparative politics), 80 series, including GOVT 380V (political theory), and 90 series (public law) .........................12

SUBFIELD MINORS: American Government and Politics
Comparative Politics
International Relations
Political Theory
Public Administration and Policy
Public Law

Students may not double count any upper division courses if they earn both a B.A. in Government and a Government subfield minor. Students must count a maximum of 3 credits in an independent studies course or an internship towards any of the above minors. Students may request permission to substitute courses between subfields, subject to approval of the Department of Government undergraduate committee.
GOVT 100G, American National Government, or HON 249G, American Politics in a Changing World .................................................................3
GOVT 110G, Introduction to Political Science, or HON 249G, The Citizen and the State: Great Political Issues .........................................................3
Twelve additional credits, of which at least 9 are upper division, including 3 upper-division courses from the same subfield. The subfield series include courses in the 20/30 series (public administration and policy), 40/50 series (American government and politics), 60 series and HON 304V (international relations), 70 series and HON 370V (comparative politics), 80 series, including GOVT 380V (political theory), and 90 series (public law) ........ 12

SHARED MINOR: Global Political Economy
Core Courses (select one course from each option):
1. ECON 324V, Developing Nations; or ECON/IB 450V, International Economics .................................................................3
2. GEOG 361V, Economic Geography; GEOG 362, Geography of International Development; SOC 469/GOVT 469, Globalization; or SOC 478/GOVT 477, Sociology of Development and the World System .................................................................3
3. GOVT 360, International Relations; GOVT 362, International Political Economy; or GOVT 386, Political Economy .................................................................3

Electives: 9 credits from the following, at least 6 of which must be outside student’s major(s): ACCT 365, International Accounting; AG E 315V/GEOG 315V, World Agriculture and Food Problems; AGHE 380V, Ecosystem Earth: the Impact of Human Activities; ANTH 301, Cultural Anthropology; ANTH 306V, Peoples of Latin America; ANTH 433/WS 433, Women, Gender and Culture; COMM 475, International Communication; ECON 251G, Principles of Macroeconomics; ECON 325V, Economic Development of Latin America; ECON 330V, Business Economy of Mexico; ECON 458, Development of Economic Thought; FIN 475/I B 475, International Managerial Finance; GEOG 328V, Geography of Latin America; GEOG 461, U.S.-Mexico Border Development; GOVT 372, Comparative Politics; GOVT 363, Inter-American Relations; GOVT 364, National Security Policy; GOVT 366, American Foreign Policy; GOVT 371, Latin American Politics; GOVT 378, U.S.-Mexico Border Politics; GOVT 379, Mexican Politics; HIST 318, U.S. Foreign Relations since 1919; HIST 422, History of Global Political Economy, HL S 465, International Health Problems; HON 305V, Global Environment; HON 320V, Food and Humanity; HON 380V, Comparative Economic Systems; HON 386V, Women in the Economy; HON 390V, Economic Development of Latin America; I B 317/MKTG 317, International Marketing; I B 351, International Business; I B 356, International Business and Economic Environments; I B 458/MKTG 458, Comparative International Management; PHIL 332, Ethics and Global Poverty, SOC 361V/ANTH 361V, Social Issues in the Rural Americas; SOC 376V, Social Change, additional core courses; and appropriate Honors, special topics, or subtitled independent studies courses approved by the Department of Government or the Department of Economics and International Business ................................................................. 9

Additional Courses: ANTH 305V, Contemporary Native Americans; ANTH 306V, Peoples of Latin America; ANTH 312, The Ancient Maya; ANTH 313, Ancient Mexico; ANTH 316, Archaeology of the American Southwest; ANTH 361V or SOC 361V, Social Issues of the Rural Americas; ART 310, Native American Art; ART 330, Art and Architecture in Pre-Columbian Meso-America; ECON 324V, Developing Nations; ECON 325V, Economic Development of Latin America; ECON 330V, The Business Economy of Mexico; ECON 460V, International Economics; ENGL 338V, Latino Literature; ENGL 339V, Chicano Literature; ENGL 361, Southwest Folklore; ENGL 394V, Southwestern Literature; GOVT 360, International Relations; GOVT 364, New Mexico Government and Politics; GOVT 366, Inter-American Relations; GOVT 371, Latin American Politics; GOVT 379, Mexican Politics; HIST 261, New Mexico History; HIST 367, Mexican-Americans in the United States; HIST 416, History of Latinos in the United States; HIST 451, Colonial Mexico; HIST 452, National Mexico; HIST 457, The Mexican Revolution; I B 351, International Business; SOC 270, Sociology of the Chicano Community; SOC 342, Sociology of Rural New Mexico; SOC 360V, Introduction to Population Studies; SOC 470, Sociology of Latinos/as in the United States; SOC 478/GOVT 477, Sociology of Development and the World System; SOC 495/GOVT 495, Globalization; SPAN 350, Introducción a Estudios Chicanos; SPAN 393, Spanglish and Bilingualism in the United States; SPAN 364V, Culture and Civilization of Mexico; SPAN 385, Introduction to Chicano Literature; SPAN 467, Chicano Literature; additional core courses; and appropriate Honors, special topics, seminars, service learning, and independent studies courses approved by Department of Government or Department of Economics and International Business ................................................................. 9

MINOR: Contemporary Social Studies
See requirements for this minor under Department of History.

HISTORY

Associate Professor Jeffrey P. Brown, department head
Professor Eamon, Bronstein, K. Hammond, Hummer Associate Professors Brooks, Garcia-Bryce, Horodowich, Malamud, Ozroff, Weisiger College Professors Tollefson, Pittsfield College Associate Professor Schneider-Hector; College Assistant Professors E. Hammond, Hendricks, Lester, Millorn Instructor Fielder, Verser
(575) 646-4601

DEGREE: Bachelor of Arts
MAJOR: History

MINORS: History
Contemporary Social Studies

A knowledge of history prepares students for careers in teaching, law, public service, management, journalism, religious education, communications, travel counseling, and library, museum, and archival staff work.

DEGREE: Bachelor of Arts
MAJOR: History

The undergraduate history major consists of at least 42 credits in the major field, 24 credits of which must be numbered 300 or above. All courses must be passed with grades of C or higher, and none may be taken on an S/U basis. Electives must be carefully selected by the student and approved by a Department of History advisor so that the student’s program is well tailored to individual goals. All majors must be advised prior to registration.

Among the upper-division courses that majors take, one or more (in addition to HIST 398) must be required a research-based paper or papers. In fulfilling their research requirements, majors must write one research-based paper or papers which together total at least 20 pages.

Departmental Requirements
1. Students must pass at least 24 credits from the list below, including at least one course from each of these five areas: HIST 101G-102G, HIST 201G-202G, HIST 211G-212G, HIST 221G-222, and HIST 311-312.

HIST 101G, Roots of Modern Europe .................................................................3
HIST 102G, Modern Europe .................................................................3
HIST 201G, Introduction to Early American History .........................................................3
HIST 202G, Introduction to Recent American History .........................................................3
HIST 211G, East Asia to 1600 .................................................................3

SHARED MINOR: United States/Mexico Border Studies

Students must pass 3 courses selected from the core (1 course coming from each of 3 departments), and 3 additional courses selected from either the core, the set of additional courses, or other relevant courses in the core. At least 9 of the minimum 18 credits must be upper division. Students should check the undergraduate catalog for individual course prerequisites.

Core: ECON 331, The Border Economy; GEOG 461 U.S.-Mexico Border Development; GOVT 322, Border Security Policy; GOVT 378, U.S.-Mexico Border Politics; HIST 458, History of the U.S.-Mexico Border; SOC 479, Sociological Perspectives on the U.S./Mexican Border; SPAN 450, Mexican Cultures; SPAN 459, Spanish Sociolinguistics of the U.S.-Mexico Border; and SPAN 469, Literatura de la Frontera ................................................................. 9
HIST 212G, East Asia since 1600 ..............................................................3
HIST 221G, Islamic Civilizations to 1800 ..................................................3
HIST 222, Islamic Civilizations since 1800 ..................................................3
HIST 311, Colonial Latin America ..............................................................3
HIST 312, Modern Latin America ..............................................................3

2. HIST 398, Historians and History* .........................................................3

*Should be taken in junior year after consultation with advisor. Course prerequisite is English 311B.

3. Five to six additional upper-division History courses, 6 credits of which must be courses numbered 400 or above. No more than three of the five to six additional courses may be from any particular field of History.

4. Total of 24 upper division History credits.

5. Majors must pass the second language requirement. Please see College of Arts and Sciences pages for discussion of the ways to pass this requirement.

Electives: Sufficient to bring total credits to 128, including 48 upper-division. History majors who are planning on pursuing certification as public school teachers should take the following 6 courses in preparation. These 6 courses will complete approximately half of the course work necessary for students to earn teaching licensure in New Mexico. After completing the undergraduate degree in History with a grade point average of 2.5 or above, student should apply to the Graduate School for admission to the Department of Curriculum and Instruction and the Teacher Education Program in the College of Education to pursue the remaining courses needed to complete secondary licensure.

EDUC 315, Multicultural Education
EDLT 368, Integrating Technology with Teaching
SPED 350, Survey of Programs for Exceptional Learners
EDUC 381, Field Experience
EDUC 530, Exploration in Education (recommended for senior year or as a graduate student)

C EP 521, Human Growth and Development (recommended for senior year or as a graduate student)

MINOR: History

A student may not earn both a bachelor’s degree in the Department of History and a minor in History.

1. Students must pass 6 credits from among the following courses:
   HIST 101G, Modern Europe; HIST 102G, Modern Europe; HIST 201G, Introduction to Early American History; HIST 202G, Introduction to Recent American History; HIST 211G, East Asia to 1600; HIST 212G, East Asia Since 1600; HIST 221G, Islamic Civilizations to 1800; HIST 222G, Islamic Civilizations since 1800

2. Students must pass at least 12 additional credits in History, of which at least 9 credits are numbered 300 and above.

All courses must be passed with grades of C or above. No courses may be taken S/U.

MINOR: Contemporary Social Studies

Students must take one course taken from each of the five areas listed below, plus an additional course taken from any of the five areas or a course that is approved by the Department of History, with grades of C or higher. Courses must not be taken on an S/U basis unless they are automatically S/U for all students. Students may substitute an appropriate subtitled special topics course, an independent readings or projects course, or an Honors course in any area with the permission of the head of the department offering the courses in that area.

A. Criminal Justice
   CJ 322, Organized Crime .................................................................3
   CJ 451, Border Violence and Justice ..................................................3
   CJ 452, "Upper World" Crime ............................................................3
   CJ 453, Women and Justice ...............................................................3

B. Geography
   GEOG 325V, New Mexico and the American West ..........................3
   GEOG 328V, Geography of Latin America ...........................................3
   GEOG 331V, Europe ............................................................................3
   GEOG 363V, Cultural Geography .......................................................3
   GEOG 366, Urban Geography ............................................................3

C. Government
   GOVT 222, Border Security Policy ....................................................3
   GOVT 234, Environmental Policy ......................................................3
   GOVT 343, Congress and the Legislative Process ..................................3
   GOVT 344, The American Presidency ................................................3
   GOVT 345, The Supreme Court ..........................................................3
   GOVT 354, American Indian Politics ..................................................3
   GOVT 366, American Foreign Policy ..................................................3
   GOVT 371, Latin American Politics ....................................................3
   GOVT 378, U.S./Mexico Border Politics ...............................................3
   GOVT 391, Constitutional Law ...........................................................3
   GOVT 392, Civil Liberty ....................................................................3
   GOVT 394, Judicial Process ...............................................................3
   GOVT 397, Law and Sex .................................................................3
   GOVT 469, Globalization .................................................................3

D. History
   HIST 302V, Science in Modern Society ..............................................3
   HIST 331, Rebels, Guerrillas and Terrorists in Modern Latin America ....3
   HIST 338, World War I ....................................................................3
   HIST 339, World War II ....................................................................3
   HIST 349, The New Deal, 1920-1960 ..................................................3
   HIST 350, Recent United States, 1960-Present ...................................3
   HIST 356, The Mexican Revolution ..................................................3
   HIST 377, Nationalism in Modern Europe .........................................3
   HIST 380, Modern Eastern Europe ...................................................3
   HIST 382V, Modern Russia ...............................................................3
   HIST 383, Germany .........................................................................3
   HIST 390, The Holocaust .................................................................3
   HIST 391, Twentieth Century World ..................................................3
   HIST 395, From Rule Britannia to ‘Cool Britannia’: Twentieth-Century Britain 3
   HIST 414, U.S. Social and Cultural History Since 1900 .......................3
   HIST 418, From the Wild West to the Atomic West .............................3
   HIST 433, United States Labor History Since 1877 .............................3
   HIST 448, Nuclear Nation .................................................................3
   HIST 481, Time Traveling through New Mexico’s Past (twentieth-century topics only) .................................................................3

E. Sociology
   SOC 361V, Social Issues in the Rural Americas ....................................3
   SOC 371, Race and Ethnic Relations ..................................................3
   SOC 372, Sociology of Health and Medicine .......................................3
   SOC 374V, Comparative Families .....................................................3
   SOC 375, Social Inequality .................................................................3
   SOC 376V, Social Change .................................................................3
   SOC 381, Individual in Society ..........................................................3
   SOC 392, Juvenile Delinquency ..........................................................3
   SOC 430, Social Movement Theory ...................................................3
   SOC 457, Gender, Science and Technology ........................................3
   SOC 458, Advanced Sociology of the Family .......................................3
   SOC 459, Sex and Gender .................................................................3
   SOC 465V, Environmental Sociology ...............................................3
   SOC 470, Sociology of Latino/as in the United States ..........................3
   SOC 474, Social Organization ..........................................................3
   SOC 477, Sociology of Education ......................................................3
   SOC 479, Sociology Perspectives on the U.S./Mexico Border .............3
   SOC 489, Globalization ....................................................................3

JOURNALISM and MASS COMMUNICATIONS

Professor Frank Thayer, department head
Professors: McCleneghan, Assistant Professors: Chung, Lamonica, Instructors Berman, Gromatzy, Porter, Scholz
(575) 646-1034
DEGREE: Bachelor of Arts
MAJOR: Journalism and Mass Communications

MINOR: Journalism and Mass Communications

Study in Journalism and Mass Communications prepares students for careers in mass media, including print, broadcasting, advertising, public relations and photography. The curriculum emphasizes the skills of gathering, evaluating and disseminating of information and related skills. Students also are instructed in the theory, law, history and professional guidelines of mass media. The program is nationally accredited by the Accrediting Council for Education in Journalism and Mass Communications (ACE/JMC).

DEGREE: Bachelor of Arts
MAJOR: Journalism and Mass Communications

Students are required to complete a 13-hour core of courses, pass a language-skills examination and then complete an additional 27 hours of courses in the department, bringing the allowable maximum to 40 hours. Students must complete at least 86 hours of courses outside the department, and must have at least 65 hours of credit in the liberal arts and sciences. An 18-credit minor in the department is available to students majoring in other fields.

Core Requirements (required of all majors)

- JOUR 105G, Introduction to Mass Communications: 3
- JOUR 110, Introduction to Mass Media Writing: 3
- JOUR 210, Print Newswriting: 3
- JOUR 400, Senior Seminar: 1
- JOUR 493, Mass Communications Law: 3

Three core courses (JOUR 105G, 110 and 210) are prerequisites to other courses in the department, as noted in maximum descriptions. Students must pass the Grammar-Spelling-Punctuation (GSP) Test in order to be accepted into the major and to enroll in JOUR 110 and higher level courses.

Advanced Requirements

Students must complete 27 hours of non-core courses, including at least one course from each category listed below. Entry into courses is subject to successful completion of appropriate prerequisites.

Category I: Intermediate Professional

- JOUR 306, Feature Article Writing: 3
- JOUR 310, Intermediate Print Reporting: 3
- JOUR 312, Creative Strategy/Copywriting: 3
- JOUR 313, Radio Reporting: 3
- JOUR 314, Television Reporting: 3
- JOUR 317, News Editing: 3
- JOUR 319, Basic Photography for the Journalist: 3
- JOUR 320, Photojournalism: 3
- JOUR 374, Principles of Public Relations: 3
- JOUR 407, Media Internship: 3
- JOUR 408, Media Practicum: 3

Category II: Advanced Professional

- JOUR 412, Documentary Photojournalism: 3
- JOUR 414, RTV Scriptwriting and Announcing: 3
- JOUR 423, Computer-Assisted News Reporting: 3
- JOUR 430, Electronic Field Production: 3
- JOUR 476, Public Relations Cases and Problems: 3
- JOUR 490, Advertising Campaigns: 3

Category III: Mass Communications

- JOUR 300, Introduction to Advertising: 3
- JOUR 321, Print Media Graphic Design: 3
- JOUR 350, History of Mass Media: 3
- JOUR 377, Mass Media Ethics: 3
- JOUR 380, Women and the Mass Media: 3
- JOUR 450, Media Management: 3
- JOUR 460, Sports and Media in Contemporary Society: 3
- JOUR 474, Community Journalism: 3
- JOUR 482, Broadcast Business and Regulation: 3
- JOUR 489, Mass Media Research: 3
- JOUR 491, Special Topics: 3
- JOUR 495, Mass Communication Theory: 3
- JOUR 499, Independent Study in Mass Communications: 1-3

Category IV: Sequence Courses

- JOUR 302, Broadcast Studio Operations: 3
- JOUR 307, Television Production: 3
- JOUR 425, Media Planning and Buying: 3
- JOUR 484, Public Opinion: 3

MINOR: Journalism and Mass Communications

Students may not earn both a Bachelor of Arts in Journalism and Mass Communications and minor in Journalism and Mass Communications.

SUGGESTED SEQUENCES OF COURSES

- JOUR 105G, Introduction to Mass Communications: 3
- JOUR 110, Introduction to Mass Media Writing: 3
- JOUR 210, Print Newswriting: 3
- Upper division JOUR courses totaling 9 upper division credits: 9

Note: Students must pass the Grammar-Spelling-Punctuation (GSP) examination prior to enrolling in JOUR 110 and higher JOUR courses.

LANGUAGES and LINGUISTICS

Professors: Barquet, Foullade, Garcia, Laroche, Pollack, Rudell, Villa, Associate Professors: MacGregor-Mendoza, Wolf, Assistant Professor: Herrera; College Associate Professors: Buchenau, Longwell, College Instructors: Calk, Schroeder (575) 646-3488

DEGREE: Bachelor of Arts
MAJOR or DOUBLE MAJOR: Foreign Languages
OPTION: French
OPTION: German
OPTION: Spanish

SUPPLEMENTARY MAJOR: Latin American Studies
SUPPLEMENTARY MAJOR: Chicano Studies
SUPPLEMENTARY MAJOR: Linguistics

MINORS: French
German
Linguistics
Spanish

Programs of study in the Department of Languages and Linguistics prepare students for a diverse number of professions and provide them with critical skills that compliment many careers in an increasingly interdependent, global marketplace. Students also increase their awareness of the important role language plays in human interaction, on individual and global levels.

The major curriculum plans in each language include balanced groups of courses in language, linguistics, literature, and culture. Students may choose to major, double major, or minor in French, German, or Spanish. Requirements involve 24 credits numbered 300 or above in the major field. Electives needed to bring the upper-division total to 48 are selected with the help of a department advisor who is especially aware of professional opportunities involving languages.

College Second Language Requirement

To meet the second language requirement, the student must do one of the following:

- Complete the normal language course sequence: 111, 112, 211, 212. Students should enter the sequence at their proficiency level. Spanish native speakers should complete the 113, 213, 214 sequence. Students who successfully complete either SPAN 113 or 213 or 214 may not take SPAN 111, 112, 211 or 212 for credit.
- Challenge the 212 level of French, German, Japanese, or Spanish, or the 214 level for the Spanish for Native Speakers, or Portuguese.
- Obtain college certification of completion of three years of one second language at the high school level with a grade of C or higher in the third-year level, (i.e., equivalent to French 212, German 212, Spanish 212, etc.).
- Obtain, from the head of the Department of Languages and Linguistics, certification of a working knowledge of a second language if such language is not taught at New Mexico State University. The student must
DEGREE: Bachelor of Arts
MAJOR or DOUBLE MAJOR: Foreign Languages

Departmental Requirements for Majors

All Foreign Language majors (single) are required to take LNG 200G and a second language through 212 (or 214 if in the Native Speaker Track of Spanish or taking Portuguese) or equivalent with the approval of the department.

Students who double major in Foreign Languages with an option in either French, German or Spanish are not required to take LNG 200G or a second language.

Students who major in Foreign Languages only and who simultaneously fulfill both the French, German and/or Spanish options are not required to take an additional language or LNG 200G. This is not a double major as the degree is in Foreign Languages with two options, French and Spanish.

An S grade in a foreign language course must correspond to a C grade or better.

Electives sufficient to bring total credits to 128, including 48 upper-division.

Departmental Requirements for Double Majors

Students can double major in Foreign Languages by completing an option in French, German, or Spanish while completing a different major in another department. The double major must be completed prior to or simultaneously with the Foreign Languages major.

Students who double major in Foreign Languages with an option in either French, German or Spanish are not required to take LNG 200G or a second language.

Students who major in Foreign Languages only and who simultaneously fulfill both the French, German and/or Spanish options are not required to take an additional language or LNG 200G. This is not a double major as the degree is in Foreign Languages with two options, French and Spanish.

An S grade in a foreign language course must correspond to a C grade or better.

Electives sufficient to bring total to 128, including 48 upper-division.

OPTION: French

Requirements
FREN 111, 112, Elementary French I, II, FREN 211, 212, Intermediate French I, II, or equivalent
French courses numbered 300 or above—24 credits, one class each in grammar, culture, and literature. One course required at the 400 level. Other courses selected from the areas of language, literature and culture with the help of the major advisor.

OPTION: German

Requirements
GER 111, 112, Elementary German I, II; and GER 211, 212, Intermediate German I, II or equivalent
German courses numbered 300 or above—24 credits selected with the aid of an advisor.

OPTION: Spanish

Language Placement
A language assessment is required for all students entering the Spanish program, including native speakers. The placement exam may be taken online from your home or any of the campus computer labs. Please print your exam results so you will have that information available. You will find the test link on the department web page.

Requirements
SPAN 111, 112, 211, 212 or SPAN 113, 213, 214 or equivalent, and SPAN 312 or 313 and 314 or 315.

Spanish courses numbered 300 and 400—24 credits selected with the aid of an advisor. Required for the major, double major, or minor: SPAN 312 or SPAN 313 and SPAN 314 or SPAN 315.

Credit will not be given for both SPAN 312 and 313. Credit will not be given for both SPAN 314 and 315. Credit will not be given for both SPAN 325 and 327.

SUPPLEMENTARY MAJOR: Latin American Studies

This program consists of 24 credits drawn from the lists below of which 18 credits must be numbered 300 or above. In addition, students must satisfy the College of Arts and Sciences language requirement through course work, proficiency examinations, or by taking three years of the same language in high school. Advisor: Dr. Beth Pollack, Languages and Linguistics.

OPTIONS

There are two options based on the section chosen by the student:

Option 1: Concentration in Latin American Language, Culture, and Literature
(Spanish or Portuguese):

a) 12 credits from Section 1
b) 12 credits from Section 2, of which no more than 6 may be taken in a single department

Option 2: Concentration in one major (e.g., history, government, economics, health science, anthropology, sociology) included in Latin American Social Sciences and Art:

a) 12 credits in the chosen area of Section 2 (if the major is government, one of these courses may be ECON 325V)
b) 6 credits from another area (or areas) of Section 2
c) 6 credits from Section 1

Both options require that the student take at least two Spanish or Portuguese courses above 300-level, for which courses the student must pass either the language placement test or SPAN/PORT 212 or 214.

Section 1: Latin American Language, Culture and Literature:

Spanish/Portuguese

Language*
SPAN 325, Advanced Conversation .................................................................3
SPAN 327, Rhetoric for Native Speakers of Spanish .................................3
HL S 461, Health Communications with Hispanic Clients .........................3
PORT 325, Portuguese Conversation ............................................................3
*Only 3 credits will count.

Culture
SPAN 305, Topics in Hispanic Civilization ..................................................3
SPAN 362, Introduction to Spanish Culture and Civilization ....................3
SPAN 363, Introduction to Spanish-American Culture ............................3
SPAN 491, History of the Spanish Language .............................................3
SPAN 450, Mexican Cultures ....................................................................3
PORT 449, Special Problems .....................................................................3

Literature
SPAN 386, Survey of Spanish Peninsular Literature through the Seventeenth Century ...........................................................3
SPAN 387, Survey of Spanish Peninsular Literature after the Seventeenth Century .................................................................3
SPAN 388, Survey of Spanish-American Literature to Modernismo 3
SPAN 389, Survey of Spanish-American Literature since Modernismo 3
SPAN 486, Twentieth-Century Spanish-American Essay 3
SPAN 487, Twentieth-Century Spanish-American Short Story 3
SPAN 488, Twentieth-Century Spanish-American Theatre 3

Section 2: Latin American Social Sciences and Art

ANTH 110, New World Prehistory .................................................................3
ANTH 360V, Peoples of Latin America .........................................................3
ANTH 361V, Social Issues in the Rural Americas .........................................3
ECON 324V, Developing Nations .................................................................3
ECON 325V, Economic Development of Latin America .........................3
ECON 320V, The Business Economy of Mexico ....................................3
GEOG 320V, Geography of Latin America(s) ........................................3
GOVT 463, Inter-American Relations .........................................................3
GOVT 475, Latin American Politics ..........................................................3
GOVT 476, Central American Politics ......................................................3
GOVT 478, U.S.-Mexico Border Politics ....................................................3
SUPPLEMENTARY MAJOR: Chicano Studies

This program consists of 24 credits drawn from the lists below. In addition, students must satisfy the College of Arts and Sciences language requirement through course work, proficiency exams, or by taking three years of the same language in high school. Advisor: Dr. Patricia MacGregor-Mendoza, Languages and Linguistics.

Core Requirements - 9 credits from

- GOVT 446, New Mexico Government and Politics
- HIST 367, Mexican Americans in the United States
- HIST 458, History of the U.S.-Mexican Border
- SOC 270, Sociology of the Chicano Community
- SOC 470, Sociology of Latinas/os in the United States
- SPAN 350, Introducción a Estudios Chicanos

Culture and Literature - 6 credits from

- ENGL 338V, Latino Literature
- ENGL 339V, Chicano Literature
- SPAN 361, Cultures of the Camino Real/Río Paso del Norte
- SPAN 450, Mexican Cultures
- SPAN 467, Chicano Literature
- SPAN 468, Hispanic Literature in the United States
- SPAN 469, Literatura de la Frontera
- SPAN 470, Methods for Teaching U.S. Hispanic Children’s Literature in the U.S.

Applicable upper-division “special topics” courses

Social Studies - 6 credits from

- ECON 346, The New Mexico Economy
- GOVT 447, U.S.-Mexico Border Politics
- HIST 416, History of Latinos in the U.S.
- SOC 371, Race and Ethnic Relations
- SPAN 353, Spanglish and Bilingualism in the United States
- SPAN 454, Spanish in the U.S.-Mexico Border Region
- SPAN 459, Sociolinguistics of the U.S.-Mexico Border Region
- SPAN 469, Studies in U.S. Spanish

Applicable upper-division honors courses

Electives - 3 credits from

- ANTH 320, Anthropological Linguistics
- COMM 376, Communication and Culture
- COMM 384, Interpersonal Communication
- COMM 435, Psychology of Human Communication
- COMM 440, Political Communication
- COMM 490, Technologies of Human Communication
- COMM 495, Nonverbal Communication
- COMM 499, Independent Study*
- COMM 491, Selected Topics*
- COMM 374, American Sign Language I
- COMM 375, American Sign Language II
- COMM 380, Speech Science
- COMM 390, Phonetics
- COMM 452, Speech Disorders
- COMM 453, Language Disorders
- CS 370, Compilers and Automata Theory
- CS 475, Artificial Intelligence I
- CS 409, Independent Study*
- CS 479, Special Topics*
- EDUC 465, Special Topics in Bilingual Education/ESL*
- EDUC 483, Second Language Acquisition
- EDUC 495, Directed Study Courses in Education*
- ENGL 451, Practicum in the Grammar of American English
- ENGL 452, History of the English Language
- FREN 352, French Phonetics
- GER 353, German Dialects
- GER 391, History of the German Language
- GER 451, Special Topics in German*
- GER 453, Independent Studies in German*
- LING 451, Independent Studies in Linguistics*
- PHIL 312, Formal Logic
- PHIL 315, Philosophy of Language
- PSY 361, Language Processing
- PSY 401, Directed Readings*
- SPAN 340, Introduction to Spanish Linguistics
- SPAN 352, Spanish in Social Contexts
- SPAN 353, Spanglish and Bilingualism in the United States
- SPAN 438, Methods for Teaching Proficiency
- SPAN 439, Topics in Applied Spanish Linguistics

Electives (12 credits)

Take 12 credits from the list below and follow these guidelines: (1) at least 3 hours must be at the 400 level, (2) no more than 6 hours may be from the depart-
SPAN 453, Independent Studies in Hispanic Linguistics*.................................3
SPAN 460, Spanish Language Acquisition ..................................................3
SPAN 491, History of the Spanish Language ..............................................3
SPAN 492, Structure of Spanish .................................................................3
SPAN 493, Studies in U.S. Spanish ..............................................................3
SPAN 496, Methods for Teaching Proficiency ............................................3
*Special topics, independent studies, and directed readings must be approved by the Department of Languages and Linguistics.

Department Requirements for a Minor in French, German, or Spanish

A minor requires 18 hours of course work in the target language. FREN, GER or SPAN 211 and/or 212 (or SPAN 213 and/or 214) may count towards the 18 credits required. SPAN 312 or SPAN 313 and SPAN 314 or SPAN 315 required for Spanish minor.

MINOR: French

A student whose primary language for a B.A. in Foreign Languages is French may not also earn a minor in French. Students must pass at least 18 credits of which at least 12 credits are upper division. Students may not count FREN 111 or FREN 112, but may count FREN 211 and/or FREN 212.

FREN 313, Composition and Grammar I, or FREN 314, Composition and Grammar II .................................................................3
One upper division course in French culture. Please see department for list of eligible courses .................................................................3
One upper division course in French language studies. Please see department for list of eligible courses .................................................3
One upper division course in French literature. Please see department for list of eligible courses .......................................................3
Six additional French credits. May include FREN 211, Intermediate French I, and/or FREN 212, Intermediate French II. Please see department for list of eligible courses .................................................................6

MINOR: German

A student whose primary language for a B.A. in Foreign Languages is German may not also earn a minor in German. Students must pass at least 18 credits of which at least 12 credits are upper division.

Six credits from among GER 325, Intermediate Composition and Grammar; GER 325, German Conversation I; and GER 343, Building Reading Skills .................................................................6
Twelve additional German credits, of which at least 6 are upper division........12

MINOR: Linguistics

The department offers a minor in linguistics. Students will take LING 200G and two of the three core courses, LING 301, 302, 303V. The remaining 9 credit hours will be chosen with the help of the advisor from related fields.

Topics in courses marked with asterisks must be approved by the component head for Linguistics in the Department of Languages and Linguistics in order to count in this minor. A student may not earn both a supplementary major in Linguistics and a minor in Linguistics.

LING 200G, Introduction to Language .........................................................3
Two of LING/PSY 301, Introduction to Psycholinguistics; LING 302V, Language and Society; and LING 303, The Formal Study of Language .................................................6
Nine hours of electives from the approved list in consultation with the linguistics advisor (see list of elective for the supplementary major in linguistics) .................................................................9

MINOR: Spanish

A student whose primary language for a B.A. in Foreign Languages is Spanish may not also earn a minor in Spanish. Students must pass at least 18 credits of which at least 12 credits are upper division. Students may not count SPAN 364V or SPAN 365V because they are taught in English.

SPAN 312, Grammar for Native Speakers of Spanish, or SPAN 313, Spanish Grammar .................................................................3
SPAN 314, Spanish Composition or SPAN 315, Issues in the Hispanic World ....3
The remaining 12 credits are electives, at least 6 of which must be taken at the 300 or 400 level. However, up to 6 of the 12 elective credits may be counted from courses passed at the 200 level .........................................................12

Notes

Students seeking a foundation in pure mathematics and flexibility in the curriculum are encouraged to pursue the General Emphasis. Students choosing this emphasis should work closely with a faculty advisor to select courses appropriate to their interests.

Emphasis: General

Students seeking a foundation in pure mathematics and flexibility in the curriculum are encouraged to pursue the General Emphasis. Students choosing this emphasis should work closely with a faculty advisor to select courses appropriate to their interests.

Departmental Requirements

MATH 331, Introduction to Modern Algebra ..............................................3
MATH 332, Introduction to Analysis ..........................................................3

Department Electives

At least 18 additional upper-division credits of approved courses prefixed MATH or STAT, excluding MATH 300, 308, 313, 314, 315, 400, 402, 459, and STAT 400. Any special topics course MATH or STAT 301 and MATH or STAT 401 must
be approved by the department for credit towards the major. At least 12 of the MATH and STAT credits must be numbered higher than 400.

**Nondepartmental Requirements for the Major (A grade of C or better must be earned. )**

Foreign Language requirement as described in the College Degree Requirements for the College of Arts and Sciences.

C S 172, Computer Science I .................................................................3
C S 272, Introduction to Data Structure ..................................................3

**Note**

It is strongly recommended that mathematics majors in the General emphasis consider a minor or second major in an area that uses mathematics, such as physics or computer science. All programs should be planned with the guidance of a departmental advisor. A short brochure containing further suggestions is available from the Department of Mathematical Sciences, and information is available at www.math.nmsu.edu

**Emphasis: Actuarial Science and Insurance**

The emphasis in Actuarial Science and Insurance draws on courses from mathematics and business to prepare students for a mathematical career in insurance. The coursework in this emphasis focuses on the analysis of risk and its applications to insurance finance. Students fulfilling the requirements for the Actuarial Science and Insurance emphasis earn a minor in insurance.

**Departmental Requirements**

MATH 331, Introduction to Modern Algebra, or MATH 332, Introduction to Analysis .................................................................3
STAT 371, Statistics for Engineers and Scientists I ......................................3
STAT 470, Probability: Theory and Application .........................................3
STAT 480, Statistics: Theory and Applications ..........................................3

**Departmental Electives (9 credits)**

The Actuarial Science Emphasis requires at least a 9 additional upper-division credit hours of approved courses prefixed MATH or STAT, excluding MATH 300, 303, 313, 314, 315, 400, 402, 459, and STAT 400. Any special topics course MATH or STAT 301 and MATH or STAT 401 must be approved by the department for credit towards the major. At least 6 of the MATH and STAT credit hours must be numbered higher than 400.

**Nondepartmental Requirements**

ACCT 251, Managerial Accounting ..........................................................3
ACCT 252, Financial Accounting ............................................................3
ECON 251G, Principles of Macroeconomics ...........................................3
ECON 252G, Principles of Microeconomics .............................................3
E 161, Computer Supported Problem Solving .........................................3
ET 260V, Technology in Business and Society .......................................3
FIN 322, Principles of Insurance ............................................................3
FIN 326, Business Risk Management .....................................................3
FIN 341, Financial Analysis and Markets ................................................3

**Insurance Electives (Pick 2 of 4)**

FIN 303V, Personal Financial Planning and Investment in a Global Economy ...3
FIN 323, Life and Health Insurance ........................................................3
FIN 324, Property and Liability Insurance ..............................................3
FIN 391, Finance Internship and Coop Education I ..................................3

**Emphasis: Applied Mathematics**

The Applied Mathematics emphasis is intended to prepare students planning a mathematically oriented career upon graduation. The coursework in this emphasis provides a foundation in mathematics important in many scientific and engineering applications.

**Departmental Requirements**

STAT 371, Statistics for Engineers and Scientists I ......................................3
MATH 377, Introduction to Numerical Methods ........................................3
MATH 392, Introduction to Ordinary Differential Equations ......................3
STAT 470, Probability: Theory and Application .........................................3
MATH 471, Complex Variables .............................................................3
MATH 472, Fourier Series and Boundary Value Problems ........................3

**Departmental Electives**

The Applied Mathematics emphasis requires at least 6 additional upper-division credit hours of approved courses prefixed MATH or STAT, excluding MATH 300, 303, 313, 314, 315, 400, 402, 459, and STAT 400. Any special topics course MATH or STAT 301 and MATH or STAT 401 must be approved by the department for credit towards the major. At least 6 of the MATH and STAT credit hours must be numbered higher than 400.

**Nondepartmental Requirements**

Majors choosing an Applied Mathematics emphasis must select a minimum of 12 credit hours of elective courses to form a coherent cluster in an applied area. Students may propose clusters subject to departmental approval. Examples of acceptable clusters are given below. More examples can be found at www.math.nmsu.edu. A cluster must contain either C S 172 or E E 161. A major or minor in any of the following fields (along with C S 172 or E E 161) will also fulfill the Cluster Electives requirement: Computer Science, Physics, Biology, Chemistry and Biochemistry, Chemical Engineering, Engineering Physics, Electrical and Computer Engineering, Industrial Engineering, Mechanical Engineering, Civil Engineering, Economics and Finance.

**Examples of acceptable clusters:**

**Signals:** E E 161, minimum of 9 hours chosen from E E 111, E E 211, E E 311, E E 395, E E 496 (students in this cluster may substitute E E 302 for STAT 371)

**Structures:** C S 172 or E E 161; minimum of 9 hours chosen from PHYS 215G, C E 233, C E 301, C E 315, C E 365

**Operations Research:** E E 161; minimum of 9 hours chosen from I E 311, I E 365, I E 413, I E 423, I E 460

**Algorithm Theory:** C S 172, C S 272, C S 370, C S 372 (earns minor in Algorithm Theory with an approved upper division mathematics elective)

**Bioinformatics:** BIOL 211 and 211L, C S 486, and a minimum of 6 hours chosen from C S 172, C S 272, C S 370, C S 371, or C S 372 (fulfilling all these requirements and taking MATH 331 earns a minor in Bioinformatics)

**Computer Systems:** C S 172, minimum of 9 hours chosen from C S 271 or C S 272, C S 371, two of C S 370, C S 451, C S 461, C S 474, C S 475, C S 476, C S 482, C S 484, C S 485, or C S 490 (fulfilling all these requirements earns a minor in Software Development)

**SUPPLEMENTARY MAJOR: Applied Mathematics**

The program consists of 24 credits in the designated list of courses. To earn a supplementary major in applied mathematics a student must earn 15 credits from Categories I.A and I.B of which at least 9 credits must be from Category I.B. A student must also earn 9 credits from the Category II list of related disciplines. The courses in Category II may be taken from any combination of areas. A student may not earn a bachelor’s degree in mathematics with an emphasis in applied mathematics and also a supplementary major in applied mathematics.

**Category I.A – choose at most 6 credits**

MATH 377, Introduction to Numerical Methods; MATH 391, Vector Analysis; MATH 392, Ordinary Differential Equations; STAT 371, Statistics for Engineers and Scientists I

**Category I.B – choose at least 9 credits**

MATH 331, Introduction to Modern Algebra; MATH 332, Introduction to Analysis; MATH 430, Combinatorial Mathematics; MATH 431, Algebraic Coding Theory; MATH 451, Introduction to Differential Geometry; MATH 453, Introduction to Topology; MATH 454, Mathematical Logic; MATH 471, Complex Variables; MATH 472, Fourier Series and Boundary Value Problems; MATH 473, Calculus of Variations and Optimal Control; MATH 480, Vector Spaces and Matrix Algebra; STAT 470, Probability-Theory and Application; STAT 480, Statistics-Theory and Applications

**Category II – related disciplines, choose any 9 credits**

C C 315, Structural Analysis I; C E 331, Hydraulic Engineering; C E 356, Fundamentals of Environmental Engineering; C E 382, Hydraulic Systems Design

CH E 305, Transport Operations I: Fluid Flow; CH E 412, Process Dynamics and Control; CH E 441, Chemical Kinetics and Reactor Engineering

C S 372, Data Structures and Algorithms; C S 476, Computer Graphics I; C S 486, Bioinformatics; C S 491, Parallel Programming; C S 492, Modeling and Simulation. For the next two courses, the student must be eligible to take 500-level courses: C S 510, Automata, Languages, Computability, and Complexity; and CS 570, Analysis of Algorithms

ECON 405, Economic Statistics; ECON 457, Mathematical Economics; ECON 498, Independent Study (with approval)

E E 295, Introduction to Digital Signal Processing; E E 470, Optics II; E E 475, Control Systems II; E E 476, Computer Control Systems; E E 498, Introduction to Communication Systems I; E E 497, Introduction to Communications Systems II

M E 332, Vibrations; M E 333, Intermediate Dynamics; M E 338, Fluid Mechanics; M E 341, Heat Transfer; M E 463, Low Speed Aerodynamics; M E 473, Compressible Flow


**MINOR: Mathematics**

A student must pass 18 or more credit hours in MATH and STAT courses, with at least 9 of the credits in upper division courses and 3 of those 9 credits in courses numbered above 400. The following courses are excluded from the minor: courses numbered below 125, MATH 180, MATH 200, MATH 210G, MATH 300, MATH 308, MATH 311, MATH 312, MATH 313, MATH 314, MATH 315, MATH 400, MATH 402, MATH 459, MATH 498 and STAT 400. At most, one of STAT 251G, STAT 271G, or STAT 371 may be included in a minor. Any special topics courses, MATH or STAT 301 and MATH or STAT 401, must be approved by the department for credit toward the minor. Courses should be taken in sequence, normally one per semester.

The Military Science program leads to a commission as an officer in the Army Reserve, National Guard, or Active Duty Army. The program consists of four parts: the student’s academic major, nondepartmental courses of value to the military service, courses in military science, and a six-week Leader Development and Assessment course. The department offers a four-year program divided into two parts: the basic course (two years) and the advanced course (two years). Selected students may qualify for the two-year program with prior military service or successful completion of a six-week summer Leaders’ Training Course. Financial assistance and scholarships are available for qualified individuals. Students should contact the Department of Military Science to obtain additional information.

**Requirements for Minor in Military Science**

The minor in Military Science is administered by the Department of Military Science (Army ROTC) in the College of Arts and Sciences. To obtain a minor in Military Science, a student must complete a total of 19 credits, all of which must be upper division. A grade of C or better must be obtained for each course. The only credits in which a grade of S will be accepted is MSC 350. Students should contact the Department of Military Science to obtain additional information.

**MILITARY SCIENCE PROGRAM**

**Basic Course—Freshman**

M SC 110, Introduction to Military Science ................................................................. 2
M SC 111, Introduction to Leadership .......................................................................... 2

**Basic Course—Sophomore**

M SC 210, Self/Team Development ............................................................................. 3
M SC 211, Leadership in Action and Team Building .................................................. 3
M SC 225, Directed Studies ....................................................................................... 1-3
M SC 250, Leadership Internship I (summer only) ..................................................... 4

Courses should be taken in sequence, normally one per semester.

**Advanced Course—Junior**

M SC 310, 310L, Leading Small Organizations I/Lab .............................................. 4
M SC 320, 320L, Leading Small Organizations II/Lab .............................................. 4
M SC 325, Advanced Directed Studies ..................................................................... 1-3
M SC 350, Leadership Internship (summer only) ..................................................... 6

**Advanced Course—Senior**

M SC 401, 401L, Leadership Challenges and Goal Setting/Lab .................................. 4
M SC 402, 402L, Transition to Lieutenant/Lab ......................................................... 4
M SC 425, Practicum ................................................................................................. 1-4

The student’s Military Science advisor will recommend course sequence. Military Science students must sign up for and attend courses plus laboratories. Departmental requirements may not be taken S/U.

**NONDEPARTMENTAL REQUIREMENTS**

One course in Military History must be successfully completed to meet Professional Military Education requirements. See your Military Science advisor for specific courses.

**MUSIC**

**Professor Kenneth Van Winkle, department head**

**Professors** Alt, Borchert, Klein, Shearer, Sylvan; **Associate Professors** Kaplan, Romero, Rowe, Spitzer, Staehle; **Assistant Professors** Bugbee, Joy, Stovall, L. Van Winkle

(575) 646-2421

**DEGREE:** Bachelor of Music Education

**OPTIONS:** K–12, Vocal

K–12, Instrumental

**DEGREE:** Bachelor of Music

**OPTIONS:** Piano Performance

Instrumental Performance

Vocal Performance

Music Business

**MINOR:** Music

**Mission Statement**

The mission of the Music Department at NMSU is:

1) to prepare students for careers in music education, business, and/or performance;
2) to give the student body opportunities to perform, study, create, and experience music;
3) to enhance the cultural lives of our constituency by performance of superior music; and
4) to create an artistic environment which fosters the development of personal realizations we believe to be essential to the fabric of a healthy society.

All students are required to meet the State Common Core as well as the College of Arts and Sciences general education requirement as listed in earlier sections of this catalog. Please see a Music Department advisor for a specific list of courses.

**Departmental Requirements for all Bachelor’s Degrees (Music Core)**

A student must earn a grade of C or better in all departmental requirements for any degree in the Department of Music. All students wishing to pursue a music degree must audition and take the theory placement exam. Contact the department for current audition requirements.

Students enrolled in this department’s major(s) or minor(s) may count credits in required applied courses toward their degrees beyond the normal maximum of 9 credits allowed in the College of Arts and Sciences. However, if students change major(s) or minor(s) or do not complete the requirements for the minor at the time of graduation, they may only count a maximum of 9 credits of the applied/occupational credits toward graduation.

Students are required to study acoustics as part of their music degree. Please see a Music Department advisor for specific course options.

**DEGREE:** Bachelor of Music Education

**OPTIONS:** K–12, Instrumental
K–12, Vocal

The Bachelor of Music Education (B.M.E.) is a diversified four- to five-year degree program of teaching, performance, and specialized studies in music. The goal of this degree is to prepare the student for certification to teach music in the public schools, and serves as a foundation for advanced study toward master’s and doctoral degrees: M.M., M.M.E., D.M.A., or Ph.D. in music education.

REQUIREMENTS: K–12 – Instrumental

Basic Music and Performance

MUS 141, Class Voice ......................................................... 2
MUS 202, Introduction to Music Literature ............................... 3
MUS 211/212, Ear Training I/II ........................................ 2
MUS 213/214, Music Theory I/II ......................................... 6
MUS 273, Music Technology .................................................. 3
MUS 302, History and Literature of Music to 1750 .................. 3
MUS 303, History and Literature of Music After 1750 ................. 3
MUS 313/312, Ear Training III/IV ...................................... 2
MUS 313/314 Music Theory III/IV ........................................ 6
MUS 325, Beginning Conducting ......................................... 1
MUS 326, Instrumental Conducting .................................... 3
MUS 230, 330, 430, Applied Music (instrumental) ................. 14
MUS 315/316, Brass Technique I/II .................................. 2
MUS 317/318, Woodwind Technique I/II ......................... 2
MUS 319/320, String Technique I/II .......................... 2
MUS 322/324, Percussion Technique I/II ......................... 2
MUS 413, Form and Analysis .............................................. 3
MUS 415, Orchestration ....................................................... 3
MUS 440, Senior Recital ..................................................... 2
Music ensemble band, orchestra ........................................ 7
**Total Basic Music and Performance Credits** .......................... 71

Students must pass the piano proficiency exam before student teaching.

Students must be admitted into the Teacher Education Program before taking MUS 346 or MUS 349.

Professional Education Courses

CEP 210, Educational Psychology ......................................... 3
MUS 250, Introduction to Music Education ......................... 1
MUS 346, Elementary Music Methods ............................... 2
MUS 349, Secondary Music Methods .................................. 2
SPED 350, Exceptional Learners ........................................... 3
RDG 414, Reading in Content Area .................................... 3
EDUC 471, Secondary Student Teaching ............................. 9
EDUC 482, Secondary Student Teaching Seminar ................... 3
**Total Professional Education** .............................................. 26

DEGREE: Bachelor of Music

OPTIONS: Instrumental Performance

Music Business

Piano Performance

Vocal Performance

The Bachelor of Music (B.M.) curriculum is designed to prepare students for performance careers and private studio teaching. In addition, the B.M. degree may be obtained in any of several fields that can lead to positions as professional entertainers or teachers at the college and university levels, or lead to music-related work in the business world.

REQUIREMENTS – Instrumental Performance

Music Core

MUS 230, Applied Piano * .................................................. 4
MUS 230, 330, 430, Applied Music I/II/III (instrumental) ........ 28
MUS 440, Senior Recital ..................................................... 2
Music Ensemble Band, Orchestra, Choir .............................. 8
**Total Music Core** ............................................................ 42

Supportive Courses in Music

MUS 202, Introduction to Music Literature ......................... 3
MUS 211/212, Ear Training I/II ........................................ 2
MUS 213/214, Music Theory I/II ......................................... 6
MUS 273, Music Technology ............................................... 3
MUS 311/312, Ear Training III/IV ...................................... 2
MUS 313/314, Music Theory III/IV ...................................... 6
MUS 302, History and Literature to 1750 ............................ 3
MUS 303, History and Literature After 1750 .......................... 3
MUS 325, Beginning Conducting ....................................... 1
MUS 413, Form and Analysis .............................................. 3
MUS 415, Orchestration ....................................................... 3
Two 400 level music history courses ................................. 6
**Total Supportive Courses** .................................................. 41

Note: Students must pass piano proficiency before completing the Senior Recital

Departmental Requirements

Electives ................................................................................. 6
Foreign Language or academic electives .................................. 8
**Total Departmental Requirements** ........................................ 14
*MUS 145, 146, 147, 261, Functional Piano I, II, III, IV may be substituted for MUS 230 App. Piano

REQUIREMENTS – Music Business

Music Core

MUS 202, Introduction to Music Literature ......................... 3
MUS 211/212, Ear Training I/II ........................................ 2
MUS 213/214, Music Theory I/II ......................................... 6
MUS 230, Applied Piano * .................................................. 2
MUS 230, 330, 430, Applied Music I/II/III (instrumental) ........ 12
MUS 273, Music Technology ............................................... 3
MUS 302, History and Literature to 1750 ............................ 3
MUS 303, History and Literature After 1750 .......................... 3
MUS 311/312, Ear Training III/IV ...................................... 2
MUS 313/314, Music Theory III/IV ...................................... 6
MUS 325, Beginning Conducting ....................................... 1
MUS 339, Music Business Survey ....................................... 1
MUS 413, Form and Analysis .............................................. 3
MUS 415, Orchestration ....................................................... 3
MUS 440, Senior Recital ..................................................... 2
MUS 230, Applied Piano .................................................................8

Total Music Core ...............................................................................64

Courses Outside Field

BUSA 111, Business in a Global Society ........................................3
ACCT 251, Management Accounting ..............................................3
ACCT 252, Financial Accounting ..................................................3
ECON 252G, Microeconomics ......................................................3
MGT 309, Human Relations .........................................................3
FIN 341, Financial Analysis and Markets ......................................3
MUS 455, Music Business Internship .............................................3

Total Outside Field ...........................................................................21

Electives

Two 400-level music history courses .............................................6
Advance MKTG course .................................................................3

Total Electives ...............................................................................12

* MUS 145, 146, 147, 261, Functional Piano I, II, III, IV may be substituted for MUS 230, Applied Piano.

Must pass piano proficiency before completing the Senior Recital.

REQUIREMENTS – Piano Performance

Music Core

MUS 230, 330, and 430, Applied Music ........................................32
MUS 398, 498, Applied Music Pedagogy and Literature I, II ..........4
MUS 440, Senior Recital ...............................................................2
Music Ensemble Chamber or Large Ensemble ...............................4
MUS 470, Special Topics: Functional Skills for Pianists ...............2

Total Major Area ............................................................................44

Supportive Courses in Music

MUS 202, Introduction to Music Literature ....................................3
MUS 211/212, Ear Training I/II ....................................................2
MUS 213/214, Music Theory I/II ....................................................3
MUS 273, Music Technology ..........................................................3
MUS 302, History and Literature to 1750 ......................................3
MUS 303, History and Literature After 1750 .................................3
MUS 311/312, Ear Training III/IV .................................................2
MUS 313/314, Music Theory III/IV ................................................6
MUS 325, Beginning Conducting .................................................1
MUS 413, Form and Analysis .........................................................3
MUS 415, Orchestration .................................................................3

History course ................................................................................3

Total Supportive Courses ..............................................................38

Departmental Requirements

Electives ........................................................................................11

Total Dept. Requirements ...............................................................11

REQUIREMENTS – Vocal Performance

Music Core

MUS 230, Applied Piano * ..........................................................4
MUS 230, 330, 430, Applied Music I/II/III (voice) .........................28
MUS 262/263, Vocal Diction I/II ...................................................4
MUS 388, Applied Music Pedagogy and Literature I .....................2
MUS 440, Senior Recital ...............................................................2
Music Ensemble Choir ..................................................................8

Total Music Credits ........................................................................48

Supportive Courses in Music

MUS 202, Introduction to Music Literature ....................................3
MUS 211/212, Ear Training I/II ....................................................2
MUS 213/214, Music Theory I/II ....................................................6
MUS 273, Music Technology ..........................................................3
MUS 302, History and Literature to 1750 ......................................3
MUS 303, History and Literature After 1750 .................................3
MUS 311/312, Ear Training III/IV .................................................2
MUS 313/314, Music Theory III/IV ................................................6
MUS 325, Beginning Conducting .................................................1
MUS 413, Form and Analysis .........................................................3
MUS 415, Orchestration .................................................................3
MUS 429, Opera and Music Drama ..............................................3

One 400-level music history course ..............................................3

Total Supportive Courses .............................................................41

Electives

One semester each of French and German ..................................8

Total Electives ...............................................................................11

* MUS 145, 146, 147, 261, Functional Piano I, II, III, IV may be substituted for MUS 230, Applied Piano.

Must pass piano proficiency before completing the Senior Recital.

MINOR: Music

A student may not earn both a bachelor’s degree in the Department of Music and a minor in Music. The minor requires 24 credits.

MUS 202, Introduction to Music Literature ....................................3
MUS 211, Ear Training I ..............................................................2
MUS 212, Ear Training II .............................................................2
MUS 213, Music Theory I ............................................................3
MUS 214, Music Theory II ...........................................................3
Nine upper division elective credits ..............................................9

Applied music ..............................................................................2

Ensemble or additional applied music ...........................................2

RECATIAL REQUIREMENTS FOR ALL MUSIC DEGREES

Bachelor of Music Education

Senior recital is required. All music education majors will have a half recital (30 minutes of music) in their major performance area.

Bachelor of Music

All performance majors are required to give a half recital (30 minutes of music) in the junior year and a full recital (60 minutes of music) in the senior year. Students taking the Music Business option will have a half recital in their major performance area.

Applied Music Requirements for All Music Degrees

All B.M.E. and B.M. degrees require that at least two semesters of the applied music study be at the 430 level.

All students enrolling in applied music will audition and obtain permission from an applied teacher before signing for applied music credit.

Obtain further information by contacting the instructor or the music department.

Other Music Requirements, Fees, and Regulations

1. A Piano Proficiency Examination is required of all music majors. The proficiency examination may be satisfied in one of two ways: (a) pass the Piano Proficiency examination; (b) complete MUS 145, 146, 147, and 261 with a grade of C or better. Detailed requirements may be obtained from the Department of Music office. Students must pass the piano proficiency exam before presenting a Senior Recital. If there are extenuating circumstances that prevent a student from taking the piano proficiency exam, then the student should schedule a meeting with the Head of the Department of Music to discuss alternatives.

2. Qualitative grade-point average for graduation in music is 2.0 or higher. All grades in required music courses must be C or better.

3. A Music Theory Placement Examination is required of all entering freshman and transfer students. All theory and ear training requirements will be completed before the music education major is permitted to student teach.

4. An instrument rental fee is charged each semester for students using university instruments. Consult the music department concerning these fees.

5. All applied students pay an additional fee. Consult the music department concerning these fees. Applied lessons (MUS 230, 330, 430) can be taken for either 2 or 4 credits only.

6. Outside groups and individuals must have special permission to use music department facilities. Contact the music office for additional information.

Music Organizations

All students taking a major or minor in music, with the exception of piano majors, must participate in the major ensemble that is appropriate for their voice or instrument. Students may choose from MUS 150, 160, 161, 170, 171, and 172 or the upper-division equivalent. All music education instrumental majors, except piano and strings, are required to participate in marching band for three semesters. Students are strongly encouraged to take at least one semester of chamber ensemble or jazz band, or both, during their degree program.
Music Scholarships and Awards
A limited number of performance stipends and other music scholarships are available to any full-time registered student and are awarded through the department. Amounts awarded will reflect excellence and achievement in performance, determined by audition—either in person or by a tape recording—and references. Participation in the Marching Band (fall semester), and Symphonic Winds (spring semester) is required for a band stipend. For an orchestra stipend, participation in the Las Cruces Symphony at NMSU is required each semester an award is made. For a vocal stipend, participation in the University Singers is required each semester an award is made. For a music scholarship, applied music study and one or more of the following may be required: participation in one of the music ensembles, as accompanist or recital appearances. Students must have a 2.0 grade-point average to retain a band stipend, and a 2.5 grade-point average to retain a music scholarship; music scholarship students must have a 3.0 grade point average in their applied music study. Specific endowed Scholarships each have independent criteria.

For more information on performance stipends and other music scholarships and awards, write to: Academic Department Head, Department of Music, P. O. Box 30001, MSC 3 F, Las Cruces, New Mexico 88003-3001 or email music@nmsu.edu.

PHILOSOPHY

Professor Timothy Cleveland, department head
Associate Professor Scoccia; Assistant Professors Vessel, Keleher, Walker, College Assistant Professor; Noonan
(575) 646-4616; 646-2358 (fax)

DEGREE: Bachelor of Arts

MAJOR: Philosophy

MINORS: Ethics

A major in philosophy serves not only as preparation for further graduate study in philosophy but also as an area of concentration in a liberal arts program. A philosophy major is appropriate for students planning to attend medical school as well as for those students interested in a career which requires critical reading and argument analysis. Such careers include business, theology and above all, law.

While the course requirements for the major should meet the ends of the liberal arts student, those students interested in graduate study in philosophy or in a career in law are encouraged to seek advice from a faculty advisor as early in their career as possible.

A minor program in philosophy requiring 18 hours of course work is also offered as well as a minor in Ethics. For more information visit the Department of Philosophy’s web page at www.nmsu.edu/~philos/.

DEGREE: Bachelor of Arts

MAJOR: Philosophy

Departmental Requirements
PHIL 211G, Informal Logic, or PHIL 312, Formal Logic.................................................3
PHIL 223G, Ethics, or PHIL 328, Applied Ethics, or PHIL 373, Ethical Theory .........3
PHIL 101G, The Art of Wondering, or PHIL 201G, Introduction to Philosophy ......3

Three credits in ethics from the following:
PHIL 320, Social and Political Philosophy; PHIL 373, Ethical Theory; PHIL 376, Philosophy of law ................................................................. 3

Three credits in applied ethics from the following:
PHIL 302, Business Ethics; PHIL 321, Biomedical Ethics; PHIL 322, Environmental Ethics; PHIL 324, Cyberethics; PHIL 327, Ethics and Sports; PHIL 328, Applied Ethics; PHIL 329, Sexual Ethics; PHIL 330, Ethics and Biomedical Research; PHIL 381, Human Nature and the Good Life; and SUR 401, Surveying Ethics. Students may earn up to 3 credits in this category from special topics or Honors courses approved by the head of the Department of Philosophy.............................................................. 9

MINOR: Ethics

A student who earns a B.A. in Philosophy may not also earn a minor in Ethics.
PHIL 211G, Informal Logic or PHIL 312, Formal Logic..................................................3
PHIL 373, Ethical Theory .....................................................................................................3

Three of the following courses, of which at least two must be upper division:
PHIL 311G, Issues in Ethics; Law and Criminal Justice; HON 225G, History of Ethics; HON 304V, Dilemmas of War and Peace; HON 306V, Science and Ethics; JOUR 377, Mass Media Ethics; PHIL 302, Business Ethics; 321 Biomedical Ethics; PHIL 322, Environmental Ethics; PHIL 323V, Engineering Ethics; PHIL 324, Cyberethics; PHIL 327, Ethics and Sports; PHIL 328, Applied Ethics; PHIL 329, Sexual Ethics; PHIL 330, Ethics and Biomedical Research; PHIL 381, Human Nature and the Good Life; and SUR 401, Surveying Ethics. Students may earn up to 3 credits in this category from special topics or Honors courses approved by the head of the Department of Philosophy.............................................................. 9

MINOR: Philosophy

A student who earns a B.A. in Philosophy may not also earn a minor in Philosophy.
PHIL 210G, The Art of Wondering, or PHIL 216G, Introduction to Philosophy .....3
PHIL 225G, Ethics, or PHIL 328, Applied Ethics, or PHIL 373, Ethical Theory .....3
PHIL 211G, Informal Logic, or PHIL 312, Formal Logic..................................................3
Nine additional Philosophy credits at the 300 or above level ........................................9

PHYSICS

Associate Professor Thomas Hearn, department head
Professor Stephen Pate, undergraduate program head
Professor Matthias Burkardt, graduate program head
Professors Armstrong, Burkardt, Burleson (emeritus), Daw (emeritus), Gibbs, Goedecke (emeritus), Ingraham (emeritus), Kyle, Liefeld (emeritus), Miller (emeritus), Ni, Pate; Assistant Professors Engelhardt, Kiefer, Urquidi, Vasiliev
(575) 646-3831

DEGREE: Bachelor of Arts

MAJOR: Physics

DEGREE: Bachelor of Science

MAJOR: Physics

EMPHASIS: Applied Physics
EMPHASIS: Computational Physics
EMPHASIS: Geophysics
EMPHASIS: Optics
EMPHASIS: Materials Science

DEGREE: Bachelor of Science

MAJOR: Engineering Physics

DESIGNATED MINORS:
Physics/Classical Mechanics
Computational Physics
Physics/Electromagnetics
General Physics
Geophysics
Physics/Materials
Physics/Optics

At least 15 additional credits in philosophy, 6 of which are courses numbered 300 or above. Additional credit may include: HON 225G, 226G, 227G or 228G.

Second language requirement:
Students must complete 212/214 level of a second language.

Electives:
Sufficient to bring total credits to 128, including 48 upper-division.
Physics/Quantum Mechanics

A bachelor’s degree in physics provides the basis for careers in industry, teaching, the military, government, or for study toward advanced degrees in physics or engineering. It should also provide the skills that recipients of physics degrees have listed as among the most important in obtaining their current positions, including problem solving ability, computer skills, mathematical skills, and laboratory skills, as well as knowledge of physics.

The Physics Department requires B.A. and B.S. students to have some knowledge of a foreign language. To meet this requirement, the student must do one of the following:

- Complete the introductory foreign language course sequence, 111 and 112, for any language taught at NMSU. Students should enter the sequence at their proficiency level.
- Challenge the 112 level of any foreign language taught at NMSU.
- Obtain college certification of completion of two years of one foreign language at the high school level with a grade of C or higher in the second year level.
- Obtain, from the head of the Department of Languages and Linguistics, certification of a working knowledge of a foreign language if such language is not taught at NMSU.
- Obtain certification of a working knowledge of a Native American language from the American Indian program director.
- Successfully complete a regular university course taught in a language other than English. A student can receive credit only once for the same course taught in two languages.
- Pass a three-credit, upper-division course (numbered 300 or above) taught in a foreign language by the department of Languages and Linguistics.
- Pass C D 375, American Sign Language II with a grade of C or better.
- In the case of a foreign student who is required to take the TOEFL examination, the Department will automatically waive the foreign language requirement.

Further information about the department may be found on the web at www.physics.nmsu.edu.

DEGREE: Bachelor of Arts
MAJOR: Physics

The curriculum for the Bachelor of Arts degree is designed for students who would like to have a firm foundation in physics combined with study in another area and greater flexibility in choosing elective courses. The program requires a minor in a second field of study chosen by the student in consultation with an advisor.

Nondepartmental Requirements (May not be taken S/U and must earn a grade of C or better.)
Minor in a second field from another department (18 credits)

Departmental Requirements
PHYS 150, Elementary Computational Physics .................................................................3
PHYS 212/213L, Mechanics, and Experimental Mechanics ...........................................4
PHYS 214/214L, Electricity and Magnetism, and Experimental Electricity and Magnetism .................................................................4
PHYS 315L, Experimental Modern Physics .................................................................3
PHYS 454, Intermediate Modern Physics I .................................................................3
PHYS 456, Intermediate Modern Physics II .................................................................3
PHYS 461, Intermediate Electricity and Magnetism I ................................................3
PHYS 462, Intermediate Electricity and Magnetism II .................................................3
PHYS 480, Thermodynamics .........................................................................................3

Advanced laboratory (PHYS 471 or 475), Six additional credits in physics or geophysics numbered 300 or above, Electives: Sufficient to bring total number of credits to at least 128, including at least one upper-division.

Students who plan to pursue graduate study in physics or geophysics are strongly advised to take one or more senior-level courses in optics, nuclear physics, atmospheric physics, condensed matter physics, geophysics, or computational physics.

Students who plan to seek employment at the B.S. level are advised to take one of the following emphasis area curricula in addition to the general and departmental requirements. The program of study should be chosen by the student in consultation with an advisor. Some recommended courses are listed below.

EMPHASIS: Applied Physics

The program of study in applied physics is planned by the student and the physics advisor and includes classes in electrical and mechanical engineering along with courses in computer science.

EMPHASIS: Applied Optics
PHYS 370, Optics I ......................................................................................... 3
PHYS 470, Optics II .............................................................................................. 3
PHYS 471, Modern Experimental Optics ........................................................................2
PHYS 478, Optical Sources, Detectors, and Radiometry ........................................ 4
PHYS 479, Lasers and Applications ......................................................................... 4

EMPHASIS: Materials Science
CHE 361, Engineering Materials ........................................................................... 3
CHEM 461, Polymers and their Composites and Mechanical Behavior .................. 3
PHYS 475, Advanced Physics Laboratory ................................................................... 3
PHYS 488, Condensed Matter Physics ...................................................................... 3
PHYS 489, Introduction to Modern Materials .......................................................... 3

EMPHASIS: Computational Physics
C S 157, FORTRAN Programming, or C S 167, C Programming ......................... 3
C S 171G, Introduction to Computer Science ............................................................ 4
MATH 279, Introduction to Finite Mathematics ....................................................... 3

Prehealth Minor—Students wishing to attend a medical or dental post-graduate school are strongly encouraged to obtain a minor in a life science field such as biochemistry, biology, human biology, microbiology, and molecular biology.

Prelaw Minor—Students wishing to attend a post-graduate law school should obtain a minor in a law-related field, such as government, accounting, finance, international business, global political economy, or a Supplementary Major in Law and Society (24 credits).

DEGREE: Bachelor of Science
MAJOR: Physics

A Bachelor of Science degree in physics at NMSU prepares a student well for graduate study in physics or geophysics, or for a variety of careers in research and teaching. Specialization in one of the emphasis areas should increase employability at the B.S. level.

Nondepartmental Requirements (Must earn a grade of C or better)
CHEM 115, CHEM 116, Principles of Chemistry I, II, or higher-level courses.

Departmental Requirements
PHYS 150, Elementary Computational Physics .........................................................3
PHYS 212/213L, Mechanics, and Experimental Mechanics ........................................4
PHYS 214/214L, Electricity and Magnetism, and Experimental Electricity and Magnetism .................................................................4
PHYS 315, Modern Physics .........................................................................................3
PHYS 315L, Experimental Modern Physics .................................................................3
PHYS 451, Intermediate Mechanics ........................................................................3
PHYS 454, Intermediate Modern Physics I ..................................................................3
PHYS 455, Intermediate Modern Physics II ..................................................................3
PHYS 461, Intermediate Electricity and Magnetism I ................................................3
PHYS 462, Intermediate Electricity and Magnetism II .................................................3
PHYS 480, Thermodynamics .........................................................................................3

Advanced laboratory (PHYS 471 or 475), Six additional credits in physics or geophysics numbered 300 or above, Electives: Sufficient to bring total number of credits to at least 128, including at least one upper-division.

Students who plan to pursue graduate study in physics or geophysics are strongly advised to take one or more senior-level courses in optics, nuclear physics, atmospheric physics, condensed matter physics, geophysics, or computational physics.

Students who plan to seek employment at the B.S. level are advised to take one of the following emphasis area curricula in addition to the general and departmental requirements. The program of study should be chosen by the student in consultation with an advisor. Some recommended courses are listed below.

EMPHASIS: Applied Physics

The program of study in applied physics is planned by the student and the physics advisor and includes classes in electrical and mechanical engineering along with classes in computer science.

EMPHASIS: Applied Optics
PHYS 370, Optics I ......................................................................................... 3
PHYS 470, Optics II .............................................................................................. 3
PHYS 471, Modern Experimental Optics ........................................................................2
PHYS 478, Optical Sources, Detectors, and Radiometry ........................................ 4
PHYS 479, Lasers and Applications ......................................................................... 4

EMPHASIS: Materials Science
CHE 361, Engineering Materials ........................................................................... 3
CHEM 461, Polymers and their Composites and Mechanical Behavior .................. 3
PHYS 475, Advanced Physics Laboratory ................................................................... 3
PHYS 488, Condensed Matter Physics ...................................................................... 3
PHYS 489, Introduction to Modern Materials .......................................................... 3

EMPHASIS: Computational Physics
C S 157, FORTRAN Programming, or C S 167, C Programming ......................... 3
C S 171G, Introduction to Computer Science ............................................................ 4
MATH 279, Introduction to Finite Mathematics ....................................................... 3
PHYS 476, Computational Physics ...........................................3

**EMPHASIS: Geophysics**

GEOL 111G, Survey of Geology ..................................................4
GPHY 330, Introduction to Geophysics ......................................3
GPHY 451, Principles of Geophysics .........................................3
GPHY 452, Exploration Geophysics ..........................................3

Students desiring to prepare to be high school physics teachers will find the specific requirements listed under the College of Education chapter. Geophysics courses are offered by the Department of Physics and are listed under “Geophysics” in the course description chapter of this catalog.

**DEGREE: Bachelor of Science in Engineering Physics**

**MAJOR: Physics**

The Bachelor of Science in Engineering Physics is a joint degree program of the Department of Physics and the College of Engineering. This degree is ideal preparation for technical careers in high-tech industries, research laboratories, and the public sector. It also provides an excellent preparation for graduate studies in physics or engineering. A full description of the program requirements can be found in the College of Engineering section of this catalog.

**MINOR: Physics**

A student cannot earn a B.A. or a B.S. in Physics and a minor in Physics. PHYS 213, Mechanics, or PHYS 215G, Engineering Physics I .................3
PHYS 214, Electricity and Magnetism, or PHYS 216G, Engineering Physics II ..................3
PHYS 217, Heat, Light and Sound .............................................3
PHYS 315, Modern Physics .....................................................3

Six additional Physics credits, not including PHYS 350, Special Topics; PHYS 400, Undergraduate Research, PHYS 450, Selected Topics; or any Physics General Education courses .......................................................6

**Designated Minors**

In addition to the regular minor, the department offers several special designated minors, listed under “Academic Majors and Minors” in the “General Information” chapter. Any of these, together with an appropriate degree in another field, should give the student a background that is adequate to pursue graduate study in physics, along with the skills that physics bachelor’s degree recipients have ranked as among the most important in obtaining their current positions. Further information may be obtained from the department or its web page at www.physics.nmsu.edu.

A student cannot earn a B.A. or B.S. in Physics and any designated minor.

To earn a designated minor, students must pass:

PHYS 213, Mechanics, or PHYS 215G, Engineering Physics I ..........3
PHYS 214, Electricity and Magnetism, or PHYS 216G, Engineering Physics II ........3
PHYS 217, Heat, Light and Sound .............................................3
PHYS 315, Modern Physics .....................................................3

Six credits as listed below for each designated minor ................6

**Classical Mechanics:** PHYS 481, Intermediate Mechanics I, and PHYS 480, Thermodynamics

**Computational Physics:** PHYS 476, Computational Physics, and PHYS 495, Mathematical Methods of Physics I

**Electromagnetism:** PHYS 481, Intermediate Electricity and Magnetism I, and PHYS 462, Intermediate Electricity and Magnetism II

**Materials:** PHYS 480, Condensed Matter Physics; and PHYS 489, Introduction to Modern Materials

**Optics:** PHYS 370, Optics I, and PHYS 470, Optics II

**Quantum Mechanics:** PHYS 454, Intermediate Modern Physics I, and PHYS 455, Intermediate Modern Physics II

**PSYCHOLOGY**

**Associate Professor James E. McDonald, department head**

**Professors** Cowie, Thompson, Trafimow; **Associate Professors** Guynn, Ketelaar, Madson, Simon; **Assistant Professors** Rice, Kroger, Marks, MacDonald; **Affiliated** Caplan, Ogden; **Emeriti** Johnston, Stephan

(575) 646-2502

**DEGREE: Bachelor of Arts**

**MAJOR: Psychology**

**MINOR: Psychology**

Students may take a major in psychology either as an area of emphasis in a liberal arts program or in preparation for further graduate education leading to professional careers in psychology. A major in psychology may be appropriate for the liberal arts student who wishes to pursue a career involving extensive social interaction and requiring solutions to people-related problems. Such careers include law, business, parenting, government, education, and management. Professional careers in psychology generally require some postbaccalaureate education. These careers include provision of clinical and counseling services, conducting research, applying research findings in industrial or government settings, and doing teaching and research in colleges and universities. Students planning to apply to graduate school are encouraged to take PSY 310, Experimental Methods I, no later than the Spring semester of their junior year.

The requirements listed below should provide an adequate exposure to psychology for the liberal arts student and a basic foundation for students seeking a career in psychology. While all majors should consult with the department’s advising center and with a faculty advisor, students wishing to prepare for a professional career in psychology are especially encouraged to work closely with an advisor, as early as possible. The advising center maintains several model programs that help prepare majors to fulfill various career goals.

**DEGREE: Bachelor of Arts**

**MAJOR: Psychology**

**General Requirements**

Students must receive a C or better in courses used to satisfy the departmental and nondepartmental requirements of the psychology major.

**Departmental Requirements**

PSY 201G, Introduction to Psychology, or HON 20G, Understanding the Science of Human Behavior ..........................................................3
Three credits from the following core: PSY 302, Abnormal Psychology; PSY 350, Developmental Psychology; Conception through Childhood; PSY 440, History and Systems .................................................................................................................3
Eight credits in research methods: PSY 310 (prerequisite of STAT 251 or 271 or E ST 311), Experimental Methods I; and PSY 311, Experimental Methods II, or PSY 493, Developmental Research Methods ........................................................................8

The following requirements are to be met after the student has completed PSY 310 which has prerequisites of STAT 251 or 271 or E ST 311G:

At least 3 credits in Basic Mechanisms from the following:

PSY 301, Introduction to Psycholinguistics; PSY 375, Introduction to Biopsychology; PSY 376, Evolutionary Psychology; PSY 380, Perception ..................................................................................3-4

At least 3 credits in Acquisition and Use of Knowledge from the following:

PSY 320, Learning; PSY 340, Cognitive Psychology; PSY 383, Memory; PSY 442, Thinking ..........................................................................................................................3-4

At least 3 credits in Understanding Behavior from the following:

PSY 315, Emotion and Motivation; PSY 317, Social Psychology; PSY 321, Personality; PSY 358, Individual and Group differences ........................................3

Additional electives to bring total credits in psychology to at least 34, with at least 24 credits being upper division.

**Nondepartmental Requirements**

STAT 251 or 271 or E ST 311 ..........................................................................3

Three credits from any Philosophy course 300-level or above ..................................................................................................................3

At least three credits of introductory biology. A course that includes a laboratory is highly recommended:

BIOL 101G, Human Biology, and BIOL 101L, Human Biology Laboratory, or BIOL 111G, Natural History of Life, and BIOL 111L, Natural History of Life Laboratory .................................................................3-4

BIOL 2115 and 211L are also recommended (Prerequisite: CHEM 110G or CHEM 111G)

**MINOR: Psychology**

A student must pass at least 18 credits in Psychology courses with grades of C or higher, and at least 9 of those credits must be upper division. A student may not earn both a B.A. in Psychology and a minor in Psychology.
SOCIOLGY and ANTHROPOLOGY

Dr. Miriam S. Chaiken, Department Head

Professors: Alexander, Benefo, Chaiken, Loutstaunau (Emeritus), Rushforth, Staski, Trevarthen ( Emeritus) Williams (Emeritus); Associate Professors: Eber, McCrossin, Stanford, Walker; Assistant Professors: Newby, Riva, Steinkopf; Way, Wossick-Corro; College Associate Professor: O’Leary, Hamilton, Hoffman, Pepior; Adjunct Professors: Boaz, Loendorf, Long; Adjunct Associate Professor: Hendricks; Adjunct Assistant Professors: Lamb, Montoya, Rochelle; Adjunct Instructors: Burrell, Davis

(575) 646-3822

DEGREE: Bachelor of Arts
MAJOR: Sociology
MAJOR: Anthropology

MINORS: American Indian Studies
Anthropology
Religious Studies
Sociology
Contemporary Social Studies

MAJOR: Sociology

The undergraduate major in sociology is broad in scope. It prepares the student for a variety of public and private sector employment opportunities including market research, personnel management, human relations, law enforcement, and health services. Successful students often use their major as a preprofessional preparation for advanced degrees in law, business, education, counseling, and other social science based careers. Courses are offered both online and in the classroom.

Departmental Requirements:
SOC 101G, Introductory Sociology ................................................................. 3
SOC 251, Sociological Imagination ............................................................... 3
SOC 351, Sociological Theory ................................................................. 3
SOC 352, Social Research: Methods .......................................................... 3
SOC 353, Social Research: Analysis .......................................................... 3
SOC 401, Introduction to Sociological Practice .................................................. 3

Electives in sociology to bring total credits in major to 33, including 24 upper-division, of which 6 credits must be 400 level. Directed readings will not satisfy this requirement, however, a maximum of six credits of Directed Readings (SOC 449 or SOC 449H) is allowed.

Criminal Justice/Sociology double majors may be permitted to substitute CJ 300 for SOC 352 and CJ 301 for SOC 353 upon approval of appropriate substitution/waiver forms. Government/Sociology double majors may be permitted to substitute GOVT 350 for SOC 352 upon approval of appropriate substitution/waiver forms. Other substitution/waivers for courses may be available upon consultation with the sociology undergraduate advisor. In all cases, the total number of sociology credits (courses with SOC prefix) must be a minimum of 33.

Online Degree Students

SOC 251 is not required of students enrolled as majors in the online sociology bachelor of arts degree program. However, total sociology credits in the major must equal 33.

Second Language

A second language is not required.

MAJOR: Anthropology

The major in anthropology provides a broadly based education in the social and biological sciences. The undergraduate program prepares students for careers in many areas, such as cultural resource management (or contract archaeology), archaeological research, forensic sciences, health services, cross-cultural field work, community development programs, and museum work. Anthropology students can continue for advanced degrees in teaching, museology, other social sciences, and anthropology.

Departmental Requirements:
ANTH 301, Cultural Anthropology ................................................................. 3
ANTH 315, Introduction to Archaeology ........................................................... 3

ANTH 320, Anthropological Linguistics ......................................................... 3
ANTH 350, Anthropological Theory ................................................................. 3
ANTH 355, Physical Anthropology ................................................................. 3
ANTH 406, Introduction to Anthropological Practice ......................................... 3

Additional electives in anthropology to bring total credits in major to 33, including 27 upper-division.

Nondepartmental Requirements

(A grade of C or better must be earned.)
ENGL 218G, Technical and Scientific Communication, or ENGL 318G, Advanced Technical and Professional Communication ......................................................... 3
MATH 120 or above ......................................................................................... 3
Electives: Sufficient to bring total credits to 128, including 48 upper-division.

Second Language

Students seeking the BA in Anthropology must meet the second language requirement. The requirement is considered satisfied when a student provides evidence that at least the 212 or 214 level of language proficiency has been attained.

MINOR: American Indian Studies

Students must pass a total of 18 credits of which at least 9 of which must be upper division. A grade of “C” or better must be obtained for each course. Students may count S grades only in courses in which all grades are S/U, and no more than 6 hours of “S” credit can be accepted. Students can count no more than 3 credits in independent studies, readings, or special topics courses. Such courses, marked below with an asterisk (*), must focus upon American Indians and must be approved in advance by the director of the minor program, specifying the semester during which a student takes such a course. Please contact the Department of Sociology and Anthropology regarding the minor advisor. Students may count no more than 9 credits in Anthropology (except that ANTH/SOC 330V, Introduction to Religious Studies, may be included above this limit) and no more than 6 credits in History.

ANTH 115, Native Peoples of North America ...................................................... 3
ART 310, Native American Art, and/or ENGL 341V, American Indian Literature ........................................................................................................ 3-6

Twelve to 15 additional credits from among ANTH 110, New World Prehistory; ANTH 116, Native Peoples of the American Southwest; ANTH 365V, Contemporary Native Americans; ANTH 405, Native Cultures of North America; *ANTH 449H, Directed Reading Honors; ANTH 467, Archaeology of the American Southwest; *ANTH 497, Special Topics; *ART 300, Special Topics in Art History; *C J 432, Issues in Criminal Justice; EDUC 315, Multicultural Education; *GOVT 400, Independent Studies; GOVT 454, Native American Politics; HIST 365, American Indian History I; HIST 366, American Indian History II; *HIST 449, Readings; *HIST 489, Projects in History; HIST 560, American Indian Health, S WK 464, Social Work with American Indian Communities; and W S 250, Special Topics ........................................................................ 12-15

MINOR: Anthropology

Students who earn a B.A. in Anthropology may not also earn a minor in Anthropology. Students earning the minor must pass 18 credits with grades of C or higher. Nine of the credits must be upper division. Students may count S grades only in courses in which all grades are S/U.

Three of the following: ANTH 301, Cultural Anthropology; ANTH 315, Introduction to Archaeology; ANTH 330, Anthropological Linguistics; ANTH 350, Anthropological Theory; and ANTH 355, Physical Anthropology ................................................................. 9

Nine additional Anthropology credits ........................................................................ 9

MINOR: Religious Studies

Students must pass 18 credits of which at least 9 are upper division. Students must earn C or higher grades and cannot count S/U courses unless all grades in the course must be S/U. No more than 9 credits (upper or lower division) can be earned in any one department. Students may not earn more than 3 credits total in independent studies or special readings courses and must receive approval from the minor advisor to count these credits. Courses that may be eligible as special topics courses when offered with specific subtitles are asterisked. Please contact the Department of Sociology and Anthropology regarding the minor advisor.

SOC/ANTH 330V, Introduction to Religious Studies ................................................ 3
Fifteen additional credits from among: ANTH 115, Native Peoples of North America; ANTH 334, Anthropology of Art; ANTH 405, Native Cultures of North America; ANTH 414, Archaeology of Religion; ANTH 432, Anthropology of Religion; ART 210, Native American Art; ART 230, Art and Architecture in Pre-Columbian Meso-America; ART 321, Pre-Columbian Art and Architecture of the Andes; DANC 451V, World Dance; ENGL 243, The Bible as Literature; ENGL 311V, World Folklore Traditions; ENGL 341V, American Indian Literature; ENGL 361V, Southwest Folklore; ENGL 390V, The Arthurian Tradition; ENGL 392, Mythology; *ENGL 403, Advanced Study in American Literature I: Early American Women Writers; ENGL 407, Milton; *ENGL 421, Advanced Study in a Literary Period or Movement: Myth, Ritual & Literature; *ENGL 423, Advanced Study in a Major Author: Blake; *ENGL 425, Advanced Study in Comparative: Dante; varying 400-level numbers for ENGL, Dying for Love: Sex and the Spirit in Early English Poetry and ENGL, Women Reading the Bible, from Late Antiquity to Puritan America; GOVT 467, Religion and Politics; HIST 101G, Roots of Modern Europe (when section approved by minor advisor); HIST 211G, East Asia to 1600; HIST 221G, Islamic Civilizations to 1800; HIST 222G, Islamic Civilizations since 1800; HIST 365, American Indian History; *HIST 400, History of Religion in Latin America; *HIST 400, Slavery and Emancipation in the Atlantic World; HIST 423, Renaissance and Reformation; HIST 451, Colonial Mexico; HIST 471, China Through the Ming Dynasty; HIST 473, History of Japan; HON 220G, The World of the Renaissance: Discovering the Modern; HON 221G, Seeking the Way: Spirit and Intellect in Pre-Modern China; HON 224G, God and Nature; HON 226G, Religion and the State; HON 229G, The New Testament as Literature; HON 234, The Worlds of Arthur; HON 237G, Archaeology: Search for the Past; HON 293G, Medieval Understanding: Literature and Culture in the Middle Ages; HON 326V, Art and Mythology; HON 348V, Comparative Mythology: Myth, Ritual and the Life Cycle; HON 355V, Sexuality in Christianity and Islam; HON 364V, Jewish Literature and Culture; HON 366G, The Gothic Imagination; PHIL 130G, The Quest for God; PHIL 331, Philosophy of Religion; PHIL 334, Medieval Philosophy; and SOC 360, Sociology of Religion

MINOR: Sociology

Students who earn a B.A. in Sociology may not also earn a minor in Sociology. Students earning the minor must pass 18 credits with grades of C or higher. Nine of the credits must be upper division. Students may count S grades only in courses in which all grades are S/U. Students may substitute an upper division social research methods course for the required SOC 352 from the Departments of Communication Studies, Criminal Justice, Government, or Psychology. However, students making this substitution must still pass 18 total credits in Sociology in order to earn this minor. Students may not count SOC 249 or SOC 449 towards the minor.

SOCIOL 101G, Introductory Sociology .............................................. 3
SOC 351, Sociological Theory .................................................... 3
SOC 352, Social Research: Methods ............................................... 3

Nine additional Sociology credits, of which at least 6 are upper division........... 9

MINOR: Contemporary Social Studies

See requirements for this minor under Department of History.

SUPPLEMENTARY MAJORS: Sustainable Development

This program consists of 24 credits drawn from the lists below of which 18 credits must be numbered 300 or above. The student must take 6 credit hours (2 classes) from the core curriculum, 15 credit hours (5 classes) of electives, and 3 credit hours (1 class) of sustainable development field study. Advisor: Lois Stanford, Sociology and Anthropology.

Core Requirements: (6 credits)
AG E/GEOG 315V, World Agriculture and Food Problems ..................... 3
ANTH 362, Environmental Anthropology ........................................ 3
GEOG 295, Environmental Geography .......................................... 3
SOC 465V, Environmental Sociology .............................................. 3
GOVT 424, Environmental Policy .................................................. 3
Biol 301, Principles of Ecology ...................................................... 3

Elective Courses: (15 credits)

Courses are limited in each department in order to encourage students to take classes in different disciplines and broaden their perspective.
AG E 337V, Natural Resource Economics ...................................... 3
AG E 370, Current Issues in Food and Agriculture .......................... 3
AGHE 380V, Ecosystem Earth, The Impact of Human Activities .......... 3
AGRO 483, Sustainable Production of Agronomic Crops .................... 3
ANTH 360, Food and Culture Around the World ............................ 3
ANTH 361V, Social Issues in the Rural Americas ............................ 3

BIOL 461V, Human Ecology .......................................................... 3
BIOL 462, Conservation Biology ................................................. 3
GEOG 362, Geography of International Development ........................ 3
GEOG 465, Land Use and Land Rent ............................................. 3
GOVT 477, Sociology of Development and the World System .............. 3
HIST 329, Plague, Plunder, and Preservation: American Environ History .. 3
HON 365V, Global Environment .................................................. 3
HON 320V, Food and Humanity: World in Crisis ............................ 3
HON 321V, Agriculture in the Urban World .................................... 3
SOC 361V, Social Issues in Rural America ........................................ 3
SOC 478, Sociology of Development and the World System .................. 3
WLS 255, Principles of Natural Resources Management ...................... 3
WLS 445, Systems Ecology ........................................................... 3

Additional Courses:

With the permission of the program advisor, students may substitute 1 class that presents a topical focus on sustainable development. Certain courses, such as GOVT 488, Political Economy, SOC 489, Globalization, or special topics courses may have a sustainable development focus, depending on the instructor or subheading. In these cases the student can request permission to substitute this specific course for an elective class listed above.

Field Requirements: (3 Credits)

In addition, students are expected to take one class that applies the principles and concepts of sustainable development in a local, regional, or international setting. Students may opt to enroll in one of the classes listed below, or they may choose to work on an independent study or internship in sustainable development. In these cases, students should seek the approval of the sustainable development committee before enrolling on the field experience or internship.
AG E 330V, Organic Fall Vegetable Production .................................. 3
AG E 331V, Organic Spring Vegetable Production ............................ 3
AG E 380, Agricultural Economic Survey ........................................ 3
ANTH 485, Field Experience ......................................................... 3
SOC 465, Internship .................................................................. 3
WLS 255, Techniques in Natural Resource Management .................... 3
WLS 450, Tropical Field Ecology .................................................... 3

MINOR: Sustainable Development

A minor in Sustainable Development is available for students who want to include Sustainable Development in their academic training. The minor includes a minimum of 18 credit hours of which 6 credit hours must be from the core curriculum, 12 credit hours from the elective courses, and 3 credit hours of field study.

THEATRE ARTS

Associate Professor Tom Smith, department head/managing director
College Assistant Professor Claudia Billings, producing director
Professor Cantrell, Pinnow; Associate Professors Smith, Storm; Assistant Professor Goddard; Professional Faculty J. Billings, Brunson, Hereford, Wise; College Assistant Professor C. Billings
(575) 646-4517

DEGREE: Bachelor of Arts
MAJOR: Theatre Arts

MINOR: Theatre Arts

A minimum of 53 credits in theatre arts is required for the major. With strong emphases in acting, directing, design/technical theatre, and playwriting, the program prepares students for graduate study or to work in professional or educational theatre. Students gain practical experience in all phases of theatrical production. The faculty is augmented by nationally-renowned theatre artists-in-residence.

Students preparing to teach in the public schools may qualify for certification by completing the Bachelor of Science in Education degree with theatre arts as a teaching field. (See curricula in the "College of Education" section.)
Theatre Majors will be required to complete a foreign language at the level of 112 or greater, or to complete 2 years of high school foreign language.

Students enrolled in this department’s major or minor may count credits in required applied courses toward their degrees beyond the normal maximum of 9 credits allowed in the College of Arts and Sciences. However, if students change the major or minor or do not complete the requirements for the minor at the time of graduation, they may only count a maximum of 9 credits of the applied/occupational credits toward graduation.

DEGREE: Bachelor of Arts
MAJOR: Theatre Arts

Departmental Requirements

THTR 110, Acting I ................................................................. 3
THTR 130, The Art of Theatre* ........................................... 3
THTR 141 and 141L, Introduction to Stagecraft and Lab* ...... 3/1
THTR 142 and 142L, Introduction to Costume Crafts and Lab* 3/1
THTR 205, Theatre History I .................................................. 3
THTR 204, Theatre History II .................................................. 3
THTR 230, Text Analysis ....................................................... 3
THTR 248, Running Crew I .................................................... 1
THTR 346, Theatre Practicum (one each in two of three areas) 2
THTR 349, Running Crew II ..................................................... 1
THTR 395, Directing I ............................................................. 3
THTR 396, Senior Seminar ..................................................... 2
THTR 440, Senior Seminar Practicum .................................. 1

Select two from the following: THTR 307, Costume History; THTR 329, Studies in Drama; THTR 321V, Modern European Drama; THTR 323, American Drama; THTR 408, Shakespeare I; THTR 409, Shakespeare II; THTR 431, Dramatic Theory and Criticism; or THTR 438, English Drama after 1600 ........................................ 6

Select one from the following: THTR 352, Costume Design, THTR 353, Scene Design; or THTR 355, Lighting Design ................................................................. 3
THTR elective courses ........................................................................ 9

Electives: Sufficient to bring total to 128, including 48 upper-division.

*THTR 130, 141L, 141L, 142L, and 142L are prerequisites for all upper-division theatre classes for majors.

MINOR: Theatre Arts

The Department of Theatre Arts has one minor in Theatre Arts. There are 4 possible tracks within the minor listed below. All tracks have 18 credits. Students must pass a minimum of 9 upper division credits with grades of C or higher among these credits in completing any of the tracks in order to earn the minor. A student can not earn both a B.A. in Theatre Arts and a minor in Theatre Arts.

Performance/Directing Track

THTR 110, Acting I ................................................................. 3
THTR 115, Voice and Movement .......................................... 3
THTR 230, Script Analysis ....................................................... 3
THTR 395, Directing I ............................................................. 3

Six upper division elective credits in Theatre Arts ......................................... 6

History/Literature/Criticism Track

THTR 130, The Art of Theatre .................................................. 3
THTR 203, Theatre History I or THTR 204, Theatre History II 3
THTR 230, Script Analysis ....................................................... 3

Three of: THTR 307, Costume History; THTR 321, Modern European Drama; THTR 323, American Drama; THTR 329, Studies in Drama; THTR 408, Shakespeare I; THTR 409, Shakespeare II; THTR 438, English Drama after 1600 ................................. 9

Design/Tech Track

THTR 141, Introduction to Stagecraft ..................................... 3
THTR 141L, Stagecraft Lab ..................................................... 1
THTR 142, Introduction to Costume Craft .............................. 3
THTR 142L, Costume Craft Lab .............................................. 1
THTR 249, Running Crew I ..................................................... 1

One of: THTR 352, Costume Design, THTR 353, Scene Design, or THTR 355, Lighting Design ................................................................. 3

Six elective upper division Theatre Arts credits ........................................... 6

Education Track

THTR 110, Acting I ................................................................. 3
THTR 130, The Art of Theatre .................................................. 3
THTR 284, Stage Management ................................................ 3

THTR 360, Creative Dramatics ................................................ 3
THTR 395, Directing I ............................................................. 3

One of: THTR 307, Costume History; THTR 321, Modern European Drama; THTR 323, American Drama; THTR 329, Studies in Drama; THTR 408, Shakespeare I; and THTR 409, Shakespeare II; THTR 438, English Drama after 1600 ........................................ 3

WOMEN’S STUDIES

Associate Professor Lisa Bond-Maupin, Director

Faculty: M. Jonet, M. Hamzeh, M. Benanti, J. Weinberg, S. Judson, S. Flores, L. Bond-Maupin


(575) 646-3448; (575) 646-7601 (fax)

DEGREE: Bachelor of Arts
MAJOR: Women’s Studies

MINOR: Women’s Studies

Women’s Studies focuses on women, gender and other diversity, multicultural learning, critical thinking, leadership development, advocacy for women’s and community issues, and the integration of theory and practice. Students engage in community service through involvement in local organizations and advocacy programs. The benefits of a Women’s Studies degree include strong critical-thinking and analytical skills developed in a student-centered environment that encourages independent thought; the experience of applying what students learn in the classroom to the world beyond, through practica; and insights into questions of gender, diversity, and power central to any workplace. Graduates of Women’s Studies find successful careers in a range of fields including the arts, business, education, health care, media, politics and law, social work, psychology, and sports.

The Women’s Studies program offers a major and a minor, described below.

DEGREE: Bachelor of Arts
MAJOR: Women’s Studies

Degree requirements for the major include 12 credit hours of required Women’s Studies courses, including one of either WS 201G, Introduction to Women’s Studies or WS 202, Representing Women Across Cultures; and the Women’s Studies Practicum, a project-based seminar; 6 credit hours of Women’s Studies electives; and 18 credit hours from a number of cross-listed courses offered both by Women’s Studies and by other programs/departments.

The total credit hour requirement for the major is 36 credit hours with 21 hours at the upper division level. All requirements must be completed with a grade of “C” or higher.

Required core courses (12 credit hours):
WS 201G, Introduction to Women’s Studies, or WS 202, Representing Women Across Cultures ................................................................. 3
WS 451, Women’s Studies Practicum (Project-Based Seminar) ......................................................... 3
WS 455, Feminist Research Methods ................................................................. 3
WS 471, Seminar in Feminist Theory ................................................................. 3

Electives from the following (6 credit hours):
WS 450, Special Topics ........................................................................ 3
WS 454, Women Crossing Borders ............................................................... 3
WS 465, Sex, Gender and the Body Across Disciplines ................................................................. 3

Electives from the following courses (or any cross-listed elective) (18 credit hours):
ANTH 433/WS 433, Women, Gender, and Culture ............................................. 3
ANTH 458/WS 458, Anthropology of the Life Cycle ......................................................... 3
CEP 320/WS 320, Sex Roles in Education ................................................................. 3
COMM 462/WS 462, Communications and Gender ......................................................... 3
COMM 465/WS 465, Family Communication ............................................................... 3
CJ 345/WS 345, Victimology ........................................................................ 3

DEGREE: Bachelor of Arts
MAJOR: Women’s Studies

Degree requirements for the major include 12 credit hours of required Women’s Studies courses, including one of either WS 201G, Introduction to Women’s Studies or WS 202, Representing Women Across Cultures; and the Women’s Studies Practicum, a project-based seminar; 6 credit hours of Women’s Studies electives; and 18 credit hours from a number of cross-listed courses offered both by Women’s Studies and by other programs/departments.

The total credit hour requirement for the major is 36 credit hours with 21 hours at the upper division level. All requirements must be completed with a grade of “C” or higher.

Required core courses (12 credit hours):
WS 201G, Introduction to Women’s Studies, or WS 202, Representing Women Across Cultures ................................................................. 3
WS 451, Women’s Studies Practicum (Project-Based Seminar) ......................................................... 3
WS 455, Feminist Research Methods ................................................................. 3
WS 471, Seminar in Feminist Theory ................................................................. 3

Electives from the following (6 credit hours):
WS 450, Special Topics ........................................................................ 3
WS 454, Women Crossing Borders ............................................................... 3
WS 465, Sex, Gender and the Body Across Disciplines ................................................................. 3

Electives from the following courses (or any cross-listed elective) (18 credit hours):
ANTH 433/WS 433, Women, Gender, and Culture ............................................. 3
ANTH 458/WS 458, Anthropology of the Life Cycle ......................................................... 3
CEP 320/WS 320, Sex Roles in Education ................................................................. 3
COMM 462/WS 462, Communications and Gender ......................................................... 3
COMM 465/WS 465, Family Communication ............................................................... 3
CJ 345/WS 345, Victimology ........................................................................ 3
MINOR: Women’s Studies

A minor in Women’s Studies consists of 18 credit hours of approved course work in Women’s Studies of which at least 12 are upper division (300 level or above).

Required core course (3 credit hours): WS 201G, Introduction to Women’s Studies or WS 202G, Representing Women Across Cultures............3

Select one of the following (3 credit hours): WS 451, Practicum; WS 455, Feminist Research Methods; or WS 471, Seminar in Feminist Theory........3

Twelve additional credits from the Women’s Studies approved curriculum, of which at least 9 credits are upper division........................................12

Note: A student may not earn a bachelor’s degree in Women’s Studies and also earn a minor in Women’s Studies.
Requirements for Bachelor’s Degrees
In accomplishing our mission the College will:

- through comprehensive programs of education, research, and public service.

Mission of the College of Business
Consistent with the mission of New Mexico State University, the College of Business serves the educational needs of New Mexico’s diverse population through comprehensive programs of education, research, and public service. In accomplishing our mission the College will:

- provide all students, but especially those from New Mexico, access to high-quality, professional education programs at the college’s, master’s and doctoral levels;
- produce intellectual contributions which enhance faculty teaching effectiveness and advance the knowledge and practice of business and management;
- provide leadership, service, and expertise for public policy, economic, social, educational, and community development, with a focus on New Mexico; and
- provide excellent stewardship of all financial, human, physical and technological resources of the college.

Requirements for Bachelor’s Degrees

- Successful completion of requirements as listed under General Education and Other Foundation courses, lower and upper division business core sections, viewing a Wider World, and general electives. This requirement does not apply to those students pursuing the Bachelor of Arts in Economics. (For this degree, see the Economics and International Business section below.)
- Successful completion of requirements as listed by the department for a specific major.
- Completion of required lower division courses prior to taking any of the last 30 credits used to meet degree requirements.
- A minimum cumulative grade point average (GPA) of 2.0 in all courses taken at NMSU.
- A minimum cumulative GPA of 2.0 in all courses taken in the College used to meet specific college core course requirements.
- A minimum cumulative GPA of 2.0 in all courses in the College used to meet specific major core course requirements.
- A minimum of 128 credits of approved courses.
- A minimum of 48 upper division credits.
- Of the last 36 credits, 30 must be completed at NMSU; of these credits, the student not regularly enrolled at NMSU the previous year must complete a minimum of 21 credits in upper-division courses, including a minimum of 12 upper-division credits in the major.
- Successful completion of at least 64 degree credits outside the College of Business. Among these credits are a maximum of 9 credits of economics and 6 credits of statistics.
- For transfer students, a minimum of 33 business credits required for a BACCT or BBA degree or 18 business credits required for a BAECON degree must be completed in the College of Business.
- For transfer students, a minimum of 12 credits in courses required in the major must be completed in the College of Business.

The college will accept toward a degree a maximum of 8 credits combined from the following 3 categories: music organizations (band, orchestra, or chorus), physical activity courses, and other applied credits such as OEBU, BMGT, HOST, BOT, CMT and L SC. Additional applied credits may be counted based on articulation agreements, students should contact the Dean’s office regarding the acceptability of specific courses.

The only courses that may be taken on an S/U option by students in the College of Business are general electives outside the college. Courses listed under General Education and Other Foundation Courses may not be taken S/U except that students may take up to 3 credits of honors courses on an S/U basis to fulfill these requirements.

All students planning to earn a degree in the College of Business are advised through the college’s Advising Center during their freshman and sophomore years or until they have completed all lower division requirements as listed under the General Education and Other Foundation Courses and Lower-division Business Core requirements sections. Students who complete these requirements are assigned to a faculty member for advising.

Lower-division requirements must be substantially completed before the student is permitted to take upper-division courses (numbered 300 or above) offered by the College of Business.

All students must demonstrate basic skills proficiency in English and mathematics before enrolling in upper division courses (numbered 300 or above).

General Education and Other Foundation Courses (45 credits)
The College of Business abides by the university’s New Mexico General Education Common Core requirements as outlined in this catalog. To minimize the number of courses taken, students should first review the college requirements listed below. Students who follow the recommendations below will satisfy the university’s general education requirements.

General Education Common Core
Area I: Communications 10 credits
A. ENGL 111G, Rhetoric and Composition or 111H, Rhetoric and Comp - Honors or SPCD 111, Advanced ESL Composition..........................................................4
B. Business students should select ENGL 203G, Business and Professional Communication..........................................................3
C. COMM 253G, Public Speaking or COMM 265G, Principles of Human Communication, or HON 265G, Principles of Human Communication - Honors or AXED 201, Effective Leadership and Communication in Agricultural Organizations........................................................................3

Accreditation
New Mexico State University has been accredited since 1926 by the Higher Learning Commission of the North Central Association of Colleges and Secondary Schools as a degree-granting institution. The university was accredited in 1954 by the American Association of University Women. The baccalaureate and graduate degree programs in business administration and accounting offered in the College of Business are accredited by AACSB International—The Association to Advance Collegiate Schools of Business.
Area II: Mathematics (3 credits)
E ST 251, or STAT 251G, Statistics for Business and the Behavioral Sciences, or MATH 121G, College Algebra or MATH 142G, Calculus for the Biological and Management Sciences I .................................................. 3

Area III: Laboratory Sciences (8 credits)
Complete two courses with labs from the approved New Mexico General Education Common Core List ................................................................. 8

Area IV: Social and Behavioral Sciences (6-9 credits)
Business students should select ECON 251G, Principles of Macroeconomics and ECON 252G, Principles of Microeconomics and up to one additional course from the approved list. PSY 201G, Introduction to Psychology, is strongly recommended for business students.

Area V: Humanities and Fine Arts (6-9 credits)
Business students should select two or three courses from the approved list so that total credits from Areas IV and V are 15.

Other College Requirements (9 credits in addition to Area II above)
ENGL 111G or alternative Area IA course must be completed with a grade of C or better ................................................................. 3
ENGL 203G must be completed with a grade of C or better .................................................. 3
COMM 265 or alternative Area IC course must be completed with a grade of C or better ........................................................................... 3
E ST 251, or STAT 251G, Statistics for Business and the Behavioral Sciences; or E ST 311G, Statistical Applications ............................................................................. 3
MATH 120, Intermediate Algebra (A grade of C or better is required) ........................................ 3
MATH 121G, College Algebra .................................................. 3
MATH 142G, Calculus for the Biological and Management Sciences I ........................................ 3
Majors in economics must have a grade of C or better in ECON 251G, ECON 252G, E ST 251G or E ST 311G (or the equivalent) and MATH 142G.

Business Core, lower division (18 credits)
ACCT 251, Management Accounting and ACCT 252, Financial Accounting2 APPLICATION 6
110, Introduction to Computerized Information Systems, or C S 110 ........................................ 3
BUS A 111, Business in a Global Society .................................................. 3
ECON 251G-252G, Principles of Macroeconomics, Microeconomics2 APPLICATION 6
2Not recommended for freshman year.

Business Core, upper division (27 credits)
BCIS 339, Business Information Systems I (all majors except IS), or BCIS 350, Systems Analysis and Design (IS majors) ........................................ 3
BCIS 485, Enterprise Resource Planning, or MGT 344, Production and Operations Management, or MGT 470, Project Management in Organizations Students required by their major to take MGT 470 must also take either BCIS 485 or MGT 344 .................................................................................................................. 3
BLAW 316, Legal Environment of Business (all majors except PGM and Sports Marketing), or BLAW 313, Sports and the Law (PGM and Sports Marketing majors) .................................................. 3
BUS A 421, Integrated Business Concepts ........................................................................... 3
FIN 341, Financial Analysis and Markets ........................................................................... 3
MGT 309, Human Behavior in Organizations ........................................................................ 3
MKTG 303, Principles of Marketing ..................................................................................... 3
Upper-division elective in economics or experimental statistics, excluding E ST 311G, Statistical Applications (Information Systems majors must take ECON 405, Economic Statistics) .............................................................................. 3
One upper division elective in business (excluding E ST 311G) ................................................ 3

Viewing a Wider World (WWW) (6 credits)
All students are required to complete two courses designated as Viewing a Wider World from two separate colleges. One course can be taken in the College of Business but can not be in the student’s major or cross-listed with a course in the student’s major. A complete listing of approved WWW courses can be found in this catalog under Required Courses. An approved study abroad experience can also be substituted for one WWW course.

General Electives
Students must complete additional credits to bring total degree credits to a minimum of 128, upper division credits to 48, and credits outside the College of Business to a minimum of 64. The number of general elective credits varies by student.

Associate in Prebusiness Degree
To complete the associate degree, 66 credits are required, including the General Education and Other Foundation Courses, and Business Core lower division listed above.
A minimum cumulative grade point average of 2.0 is also required. The last 15 credits towards the degree must be earned at NMSU.

Minors in Business
Minors are available in accounting, advertising, banking, business administration, economics, finance, information systems, intelligence studies, international business, management, marketing, risk management and insurance and sport marketing. The College also cooperates with the College of Arts and Sciences in offering minors in global political economy and U.S.-Mexico border studies.

Prelaw Students
Because the practice of law often involves business-related problems, the majors in the college provide an excellent preparation for the prelaw student. The college has attorneys on the faculty who are available as advisors.

Graduate Work
The College of Business also offers programs leading to the following degrees: Master of Business Administration, Master of Arts (Economics), Master of Accountancy, Master of Science (Experimental Statistics), Ph.D. in Business Administration and Doctorate in Economic Development. For details on programs leading to these degrees, see the current Graduate School Catalog.

MINOR: Business Administration
This minor is available to all students except those seeking the Bachelor of Accountancy and the Bachelor of Business Administration. A cumulative GPA of at least 2.0 is required for 18 credits, nine of which must be upper division. Students must select nine credits from only one of the following course prefixes: ACCT, ECON, FIN, IB, MGT, or MKTG. Students must select an additional nine credits from any of the following prefixes: ACCT, BA, BCIS, BLAW, BUSA, ECON, FIN, IB, MGT, MKTG.

Transferring Business Courses
The following business courses have been identified as transferable from NMSU to other public two year and four year institutions in New Mexico. The equivalent course at other institutions can be identified using the common course number which appears in parentheses below. Similarly, students from other institutions can use the common course number to identify business courses that can be transferred to NMSU.
ACCT 251, Management Accounting (ACCT 2123)
ACCT 252, Financial Accounting (ACCT 2113)
ACCT 301, Financial Accounting I (ACCT 2133)
BCIS 110, Introduction to Computerized Information Systems (BCIS 1113)
BLAW 316, Legal Environment of Business (BLAW 2113)
BLAW 418, Uniform Commercial Code and Advanced Business Law Topics (BLAW 2123)
BUS A 111, Business in a Global Society (BUS A 1113)
ECON 251G, Principles of Macroeconomics (ECON 2113)
ECON 252G, Principles of Microeconomics (ECON 2123)
FIN 341, Financial Analysis and Markets (BFIN 2113)
MKTG 303, Principles of Marketing (MKTG 2113)
MGT 201, Principles of Management (MGT 2113)
E ST 251G, Statistics for Business and the Behavioral Sciences, or E ST 311 or STAT 251G (MATH 2313)

ACCOUNTING and INFORMATION SYSTEMS

Associate Professor Larry Tunnell, department head
Professors Mills, Scribner; Associate Professors Alt, Billiot, Calk, Kreie, Nelson, Oliver, Seipel; Assistant Professors McNelis, Melendrez, Mora, Smith; College Associate Professors Schoener, Shannon; College Assistant Professor, Spencer
MINOR: Accounting

Information Systems

MINORS: Accounting

Information Systems

DEGREE: Bachelor of Accountancy

The Bachelor of Accountancy degree is available to students choosing accounting as a major. The curriculum is designed to prepare you for the excellent opportunities that exist in public accounting practice and in business, government, and nonprofit organizations. It is also appropriate for those who may choose to seek either the Master of Accountancy or the Master of Business Administration degree after graduation.

Every candidate for the Bachelor of Accountancy degree must fulfill the following requirements in addition to the general education courses, other foundation courses, the business core courses, viewing a Wider World and general electives (see above).

Major Courses (27 credits)

These requirements combined with the accounting courses required above provide a minimum of 30 credits in accounting.

ACCT 301 and 302, Financial Accounting I and II ....................................................... 6
ACCT 353, Cost Accounting ......................................................................................... 3
ACCT 403, Federal Taxation I ...................................................................................... 3
ACCT 451, Auditing Theory and Practices .................................................................. 3
ACCT 452, Accounting Systems ............................................................................... 3
Elective in business, upper-division ........................................................................... 3
Electives in accounting, upper-division ..................................................................... 6

In order to count toward the Bachelor of Accountancy, upper-division transfer courses in accounting (1) must have been taken at an institution with AACSB Accounting accreditation or (2) be part of the New Mexico Business Articulation Matrix.

DEGREE: Bachelor of Business Administration

Every candidate for the Bachelor of Business Administration degree must fulfill the following requirements in addition to the general education and other foundation courses, business core courses, viewing a Wider World and general electives (see above).

In the upper-division core IS majors must take ECON 405, Economic Statistics, as their ECON or E ST elective.

MAJOR: Information Systems

The Information Systems program prepares you for a variety of administrative and technical positions associated with the analysis and design of computerized information systems. Potential employers include information system service organizations, public accounting/consulting firms, manufacturing and merchandising businesses, banks and other financial institutions, government, and others.

Major Courses (27 credits)

ACCT 452, Accounting Systems ................................................................................. 3
BCIS 122, Introduction to Information Systems Programming ............................. 3
BCIS 222, Introduction to Object Oriented Programming ........................................ 3
BCIS 322, Intermediate Object Oriented Programming ............................................. 3
BCIS 450, Systems Design, Development and Implementation ............................ 3
BCIS 475, Database Management Systems ............................................................. 3
Electives in BCIS, upper-division (may not include BCIS 458 or 485) .................. 9

MINOR: Accounting

In order to obtain a minor in Accounting, a student must complete 18 or more credit hours of approved course work in Accounting (ACCT), of which at least 12 hours are in courses numbered 300 or higher. A cumulative grade point average of 2.0 over the 18 hours must be earned. Required courses include ACCT 251, 252, and 301. Either BUSA 365 or BCIS 485 may be substituted for 3 hours of Accounting numbered 300 or higher. The remaining hours may be satisfied by completing any upper-division courses in Accounting, except ACCT 490. Of the 12 hours of upper-division Accounting classes required for the minor, a minimum of 6 must be taken at NMSU. In order to count toward the minor, upper-division transfer courses must have been taken at an institution with AACSB Accounting accreditation. Application forms for an Accounting minor are available from the Department of Accounting and Information Systems, room 232, Business Complex Building. These may be submitted for approval when a student begins the remaining class(es) in Accounting, leading to the minor.

MINOR: Information Systems

In order to obtain a minor in Information Systems (IS), a student must complete 18 or more credit hours of approved coursework in IS, of which at least 12 hours are in courses numbered 300 or higher. A cumulative grade point average of at least 2.0 over the 18 hours must be earned. Required courses include BCIS 122, 222, and 338 or 350. Computer Science 187 may be substituted for BCIS 122. The remaining 9 hours may be satisfied with any upper-division BCIS courses (including ACCT 452) chosen with the consent of a BCIS advisor. It should be noted that some upper-division BCIS courses require BCIS 322 as a prerequisite. Application forms for an IS minor are available from the Department of Accounting and Information Systems, room 232, Business Complex Building. These may be submitted for approval when a student begins the remaining class(es) in IS, leading to the minor.

ECONOMICS and INTERNATIONAL BUSINESS

Professor Anthony Popp, department head

Professors: Adkisson, Carruthers, Ellis (emeritus), Enomoto, Geggax, Gould, Matta, McGuckin, Peach, D.B. Smith (emeritus), D. W. Smith, Steiner, VanLeeuwen, Willman; Associate Professors: Brooks, Clason, Daniel, Erickson; Assistant Professor: Blank, Lee, McFerrin, Starbuck, Widner; College Professor: V. Bullock; College Associate Professor: Schmidt

(575) 646-2113

DEGREE: Bachelor of Business Administration

MAJOR: Economics

MAJOR: International Business

DEGREE: Bachelor of Arts in Economics

MAJOR: Economics

MINOR: Economics

Intelligence Studies

International Business

SHARED MINORS: Global Political Economy

United States/Mexico Border Studies

DEGREE: Bachelor of Business Administration

MAJOR: Economics

This program is especially suitable for students who find economics interesting and who intend, perhaps without additional formal education beyond the Bachelor’s degree, to take jobs in business or government. This degree prepares you for a wide variety of jobs including those leading eventually to positions of executive responsibility. It is also appropriate for those who may choose to seek a Master of Business Administration degree after graduation.

Every candidate for this degree must complete the following courses with a grade of C or better: ECON 251G, ECON 252G, E ST 251G or E ST 311G (or the equivalent), and MATH 142G. In addition to completing the general education and foundation courses, the business core courses, viewing a Wider World and general electives (see above), you must fulfill the following requirements.

Major Courses (24 credits)

ECON 304, Money and Banking ............................................................................... 3
ECON 371, Intermediate Microeconomic Theory .................................................... 3
MAJOR: International Business

This program is intended for those who plan to work for government agencies or firms with operations abroad or between the United States and foreign countries. The program prepares you for positions requiring knowledge of international payments, foreign exchange markets, world marketing techniques for products, export and import procedures, and international investments.

Every candidate for this degree must complete the following courses with a grade of C or better: I B 251G, I B 252G, E ST 251Gor E ST 311G (or the equivalent), and MATH 142G. In addition to completing the general education and other foundation courses, the business core courses, Viewing a Wider World and general electives (see above), international business majors must fulfill the following requirements.

Major Courses (30 credits)
I B 351, International Business .................................................................3
I B 405V, International Economics ......................................................3
I B 475, International Finance ..............................................................3
Choice of one from ECON 224V, ECON 225V, ECON 330, I B 398, and HON 380V.....3
I B 450V, International Economics ...................................................................................3

Functional area in business (upper-division courses in a single functional area of business beyond those elsewhere required for the I B major) .............15

Other Requirements for the Major
Foreign language: Students must demonstrate oral and written proficiency at the intermediate mid-level according to ACTFL (American Council on the Teaching of Foreign Languages) proficiency guidelines.

International experience requirement: Students must partake of an international experience equivalent to a semester abroad in a university where the language of instruction is not English.

DEGREE: Bachelor of Arts in Economics

MAJOR: Economics

This program is suitable for, among others, students who plan to go onto graduate school in economics, law, business, or other areas. It has the advantage of including a large number of general electives. This feature provides great flexibility to the student who, in addition to completing the courses for a major in economics, may wish to take courses from a wide variety of other subjects of his or her own choosing. Every candidate for this degree must complete the following courses with a grade of C or better: ECON 251G, ECON 252G, E ST 311G (or the equivalent), and MATH 142G.

General Degree Requirements
ACCT 251, Management Accounting; or ACCT 252, Financial Accounting..............3
Quantitative economics or foreign language choice (choose "a" or "b"); (a)
ECON 457, Mathematical Economics and ECON 405, Economic Statistics or (b) two foreign language courses numbered 200 or above ..................................6
E ST 251Gor STAT 251G, Statistics for Business and the Behavioral Sciences; or E ST 311G, Statistical Applications .........................................................3
MATH 120, Intermediate Algebra (A grade of C or better is required) ......................3
MATH 121G, College Algebra ............................................................................3
MATH 142G, Calculus for the Biological and Management Sciences I ...............3
Majors in economics must have a grade of C or better in ECON 251G, ECON 252G, E ST 311G (or the equivalent) and MATH 142G.

Area I: Communications (10 credits) (Complete one course from each category with a grade of C or better)
A. ENGL 111G, Rhetoric and Composition or ENGL 111H, Rhetoric and Composition(Honors), or SPCD 111, Advanced ESL Composition .................4
B. ENGL 203G, Business and Professional Communication; ENGL 211G, Writing in the Humanities and Social Sciences; ENGL 218G, Technical and Professional Communication; ENGL 311G, Advanced Composition; or ENGL 318G, Advanced Technical and Professional Communication .................................................3
C. CMM 256G, Public Speaking or CMM 265G, Principles of Human Communication or HON 265G, Principles of Human Communication(Honors) or AXED 201, Effective Leadership and Communication in Agricultural Organizations .................................................................3

Area II: Mathematics (3 credits)
Select E ST 251G, Statistics for Business and the Behavioral Sciences or MATH 121G, College Algebra or MATH 142G, Calculus for the Biological Management Sciences I .............................................3

Area III: Laboratory Sciences (8 credits)
Complete two courses with labs from the approved New Mexico General Education Common Core List .........................................................8

Area IV: Social and Behavioral Sciences (6-9 credits)
Select ECON 251G, Principles of Macroeconomics and ECON 252G, Principles of Microeconomics and up to one additional course from the approved list.

Area V: Humanities and Fine Arts (6-9 credits)
Select two or three courses from the approved list so that total credits from Areas IV and V total 15.

*Students planning to do graduate work in mathematical economics or statistics are urged to take MATH 191G and 192, Mathematics for Engineers and Scientists I and II, instead of MATH 142G; and MATH 121G. A grade of C or better is required in MATH 191G.

Departmental Core Courses (24 credits)
ECON 304, Money and Banking .....................................................................3
ECON 371, Intermediate Microeconomic Theory ........................................3
ECON 372, Intermediate Macroeconomic Theory ........................................3
ECON 405, Economic Statistics, or an economics elective for those taking the quantitative option above .................................................................3
ECON 489, Senior Economics Seminar ..........................................................3
Electives in economics, upper-division (not to include ECON 457, used to satisfy the quantitative economics requirement) ...........................................9
Minimum of 12 credits (including any required introductory courses) in an area of concentration other than the major.

The courses may be taken in any area approved by the head of the department, but the following are recommended: accounting, anthropology, business administration, information systems, finance, management, marketing, computer science, geography, government, history, mathematics, philosophy, or sociology. At least 6 of the 12 credits must be in courses numbered 300 or above unless exception is granted by the department head. Courses taken as part of general degree requirements may be counted in meeting this requirement.

Electives (29 credits)
Viewing a Wider World (WWW) (6 Credits)
All students are required to complete two courses designated as Viewing a Wider World from two separate colleges other that the College of Business. A complete listing of approved courses can be found in this catalog under Required Courses.

General Electives
Students must complete additional credits to bring total degree credits to a minimum of 128, upper division credits to 48, and credits outside the College of Business to a minimum of 64. Up to 9 credits of economics and 6 credits of statistics may be counted as outside the college. The number of general elective credits varies by student.

MINOR: Economics

A minor in economics consists of 18 or more credit hours of approved course work in economics (ECON), of which at least 12 are numbered 300 or higher, all completed with a grade of “C” or higher.

Specifically required are Economics 251G and 252G: Economics 201G may be substituted for one of these with the approval of the Head of the Department of Economics. Also required are one course from among Economics 304, 372, and 454, and one course from among Economics 401 and 371. The remaining 6 credits may be satisfied with any upper-division courses (courses numbered 300 or higher) in economics.

MINOR: Intelligence Studies

Available only to College of Business Majors

A minor in Intelligence Studies consists of 18 or more credit hours of approved course work from the following list, all completed with a grade of “C” or higher. At least nine of the credits must be upper division.
This minor supplements the courses in a standard business major with background courses in intelligence studies and additional skill courses and prepares students to work for governmental intelligence agencies or private firms which work with the government on intelligence issues.

Not all these courses are offered by their various departments every semester. Students should check with the advisors and the specific departments to verify when those courses are being offered.

The following courses (9 credit hours) are required for the minor.

- ENGL 318G, Advanced Technical and Professional Communication .................3
- PHIL 223G, Ethics .........................................................................................3
- ECON 490, Special Topics, Intelligence Research and Analysis ......................3

At least 9 credits selected in consultation with the advisor. There are courses offered throughout the university that are pertinent to specific areas of Intelligence Studies. Below are some examples.

- GOVT 380V, Contemporary World Political Ideologies .....................................3
- GOVT 422, Border Security Policy ......................................................................3
- ECON 324V, Economic Development ................................................................3
- ECON 325V, Economic Development of Latin America ..................................3
- GEOG 281, Map use and Analysis .....................................................................3
- GEOG 381, Cartography and Geographic Information Systems .....................3
- MGT 347, Management Functions and Operations .............................................3
- MGT 351, Supply Chain Management ...............................................................3

Credits for academic work done in conjunction with internships related to Intelligence Studies.

Notes:

Students can reduce the total credits required by carefully selecting VWW courses and by using the ethics course to fill the general education requirement in Humanities and Fine Arts. Remember that at least 9 credit hours must be upper division.

MINOR: International Business

A minor in international business consists of 18 or more credit hours of approved course work in the International Business core, all completed with an average grade of "C" or higher.

Specifically, minors in International Business must complete IB 351, ECON/IB 450V, FIN/IB 475, IB 489, one class from ECON 324V, ECON 325V, ECON 330, HON 380, IB 388, plus one other upper-division business course. In addition, IB minors must meet the foreign language proficiency requirement described below.

Students must demonstrate oral and written proficiency in a foreign language at the intermediate mid-level according to the ACTFL (American Council on the Teaching of Foreign Languages) proficiency guidelines. (Process for demonstrating proficiency to be coordinated with the NMSU Department of Languages and Linguistics. Any costs associated with proficiency demonstration will be paid by the student.)

SHARED MINOR: Global Political Economy

This minor is shared with the Department of Government in the College of Arts and Sciences. All courses must be passed with a grade of C or above.

Core:

- ECON 324V, Developing Nations, or ECON/IB 450V, International Economics ..................................................3
- GEOG 361V, Economic Geography, or GEOG 362, Geography of International Development, or SOC 458, Globalization; or SOC 479/GOVT 477, Sociology of Development and the World System .................................................................3
- GOVT 360, International Relations, or GOVT 466, Political Economy ............3

Electives: 9 credits from the following, at least 6 of which must be outside student’s major(s): ACCT 395; International Accounting; AG E 315V/GEOG 315V, World Agriculture and Food Problems; AGHE 380V, Ecosystem Earth: the Impact of Human Activities; ANTH 360V, Peoples of Latin America; ANTH 433WS 433, Women Gender and Culture; COMM 475, International Communication; ECON 2516, Principles of Macroeconomics; ECON 325V, Economic Development of Latin America; ECON 330V, Business Economy of Mexico; ECON 458, Development of Economic Thought; FIN 473/IB 475, International Managerial Finance; GEOG 328V, Geography of Latin America; GEOG 461, U.S.-Mexico Border Development; GOVT 370, Comparative Politics; GOVT 461, International Political Economy; GOVT 463, Inter-American Relations; GOVT 464, National Security Policy; GOVT 466, Applied Foreign Policy; GOVT 472, Politics of Development; GOVT 473, Latin American Politics; GOVT 476, Central American Politics; GOVT 478, U.S.-Mexico Border Politics; GOVT 479, Mexican Politics; HIST 422, U.S. Foreign Relations since 1914; HL S 465, International Health Problems; HON 380V, Comparative Economic Systems; HON 388V, Women in the Economy; HON 390V, Economic Development of Latin America; I B 317/MKTG 317, International Marketing; I B 351, International Business; I B 398, International Business and Economic Environments; I B 458/MGT 458, Comparative International Management; SOC 361V/ANTH 361V, Social Issues in the Rural Americas; SOC 378V, Social Change; additional core courses; and appropriate Honors, special topics, or subtitled independent studies courses approved by the Department of Government or the Department of Economics and International Business ............................................9

SHARED MINOR: United States/Mexico Border Studies

This minor is shared with the Department of Government in the College of Arts and Sciences. Students must pass 3 courses selected from the core (1 course coming from each of 3 departments), and 3 additional courses selected from either the core, the set of additional courses, or other relevant courses approved by either the Department of Government or the Department of Economics and International Business. At least 9 of the minimum 18 credits must be upper division. All courses must be passed with grades of C or above. Students may not count S/U grades unless all grades in a particular course are automatically S/U. Courses taught in Spanish have an asterisk (*). Students should check the undergraduate catalog for individual course prerequisites.

Core: ECON 331, The Border Economy; GEOG 461 U.S.-Mexico Border Develop- ment; GOVT 478, U.S.-Mexico Border Politics; HIST 458, History of the U.S.-Mexico Border; SOC 479, Sociological Perspectives on the U.S./Mexican Border; and either *SPAN 454, Spanish of the U.S.-Mexico Border Region or *SPAN 459, Spanish Sociolinguistics of the U.S.-Mexico Border or *SPAN 469, Literatura de la Frontera .................................................................9

Additional Courses: ANTH 305V, Contemporary Native Americans; ANTH 306V, Peoples of Latin America; ANTH 312, The Ancient Maya; ANTH 313, Ancient Mexico; ANTH 316, Archaeology of the American Southwest; ANTH 361V or SOC 361V, Social Issues of the Rural Americas; ART 310, Native American Art; ART 320, Art and Architecture in Pre-Columbian Meso-America; ECON 324V, Developing Nations; ECON 325V, Economic Development of Latin America; ECON 330V, The Business Economy of Mexico; ECON 450V, International Economics; ENGL 339V, Chicano Literature; ENGL 361, Southwest Folklore; ENGL 394V, Southwestern Literature; GOVT 360, International Relations; GOVT 446, New Mexico Government and Politics; GOVT 463, Inter-American Relations; GOVT 473, Latin American Politics; GOVT 476, Central American Politics; GOVT 479, Mexican Government and Politics; HIST 261, New Mexico History; HIST 367, Mexican-Americans in the United States; HIST 416, History of Latinos in the United States; HIST 451, Colonial Mexico; HIST 452, National Mexico; HIST 457, The Mexican Revolution; I B 351, International Business; SOC 270, Sociology of the Chicano Community I; SOC 342, Sociology of Rural New Mexico; SOC 360V, Introduction to Population Studies; SOC 470, Sociology of Latinos/as in the United States; SOC 478 or GOVT 477, Sociology of Development and the World System; SOC 489 or GOVT 469, Globalization; *SPAN 350, Introducción a los Estudios Chicanos; *SPAN 353, Spanglish and Bilingualism in the United States; SPAN 364V, Culture and Civilization of Mexico; *SPAN 385, Introduction to Chicano Literature; *SPAN 467, Chicano Literature; additional Core courses; and appropriate Honors, special topics, seminars, service learning, and independent studies courses approved by Department of Government or Department of Economics and International Business ............................................9

Statistics Courses

The staff of the University Statistics Center provides undergraduate service courses in applied statistics for students from all colleges. These courses are presented at an introductory level to acquaint the student with basic statistical concepts. This service instruction extends to intermediate and advanced graduate-level courses.

Graduate Work

The Department of Economics and International Business offers a graduate program leading to the Master of Science in Experimental Statistics. The Department also offers a graduate program leading to a Master of Arts in Economics, a Master of Science in Agricultural Economics and a Doctorate in Economic Development. Interested students should consult the Graduate Catalog, which is available from the Graduate School. For more information call (575) 646-2936.
## FINANCE

**Associate Professor Lizbeth Ellis, department head**

Professors Compton (Emeritus), Fortin, Martin, Oretzkin; Associate Professors DeBoyrie, Garland, Goldberg, Query, Roth, Sankaran; Assistant Professor Johns; College Assistant Professor Berryman, Taylor

(575) 646-3201

**DEGREE:** Bachelor of Business Administration

**MAJOR:** Finance

**OPTION:** Banking

**MINORS:** Finance, Risk Management and Insurance

**Banking**

**DEGREE:** Bachelor of Business Administration

**MAJOR:** Finance

Finance is the management of money and cash flow for business organizations, government and individuals. The study of finance involves examining the theory and techniques of managing money, including analysis and management of risk. Finance students learn to apply tools and concepts from mathematics, statistics, economics and accounting to financial decision-making. With this knowledge, finance graduates are in high demand by employers and command some of the highest salaries for college graduates. Finance majors have a choice of finance electives. This flexibility allows students to focus their finance program on financial management, investments, banking, and/insurance.

**Major Courses (24 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 355, Investments</td>
<td>3</td>
</tr>
<tr>
<td>FIN 385, Analysis of Financial Markets and Institutions</td>
<td>3</td>
</tr>
<tr>
<td>FIN 406, Theory of Financial Decisions</td>
<td>3</td>
</tr>
<tr>
<td>Finance electives: Four additional, upper division, finance courses numbered 310 or higher</td>
<td>12</td>
</tr>
<tr>
<td>Any upper-division accounting course</td>
<td>3</td>
</tr>
</tbody>
</table>

The finance electives prepare students for careers in specific areas of finance. Students may choose electives in banking, investments, financial management, international finance, real estate or insurance depending on their career goals and their interests.

**OPTION:** Banking

The banking option was established to provide the regional banking community with timely research and a source of new employees who recognize the specialized needs of financial institutions and the banking industry. This program encourages an internship or co-op experience in a bank or other financial institution.

**Major Courses (30 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 301, Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 403, Federal Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>FIN 355, Investments</td>
<td>3</td>
</tr>
<tr>
<td>FIN 360, Financial Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>FIN 385, Analysis of Financial Markets and Institutions</td>
<td>3</td>
</tr>
<tr>
<td>FIN 406, Theory of Financial Decisions</td>
<td>3</td>
</tr>
<tr>
<td>FIN 466, Financial Policy Decisions</td>
<td>3</td>
</tr>
<tr>
<td>FIN 480, Management of Financial Institutions</td>
<td>3</td>
</tr>
<tr>
<td>ACCT elective or BLAW 418, Uniform Commercial Code and Advanced Business Law</td>
<td>3</td>
</tr>
</tbody>
</table>

**FIN upper division elective numbered 310 or higher* | 3**

*Students transferring from the Doña Ana Community College may substitute DEBU 213, Consumer Lending or DEBU 225, Introduction to Commercial Lending to satisfy the Finance upper division elective requirement.

**MINOR:** Finance

The minor in Finance, available to students of all majors (business and non-business), is designed to give students the opportunity to select their minor courses to provide a focus on any one of several sub-specialties within the field of Finance. Faculty advisors in the department can assist students in selecting their Finance electives to provide a focus in financial management, investments, banking, or insurance.

**Requirements:** Completion of the courses listed below with a minimum cumulative GPA of 2.0 in these courses and a minimum cumulative GPA of 2.0 in the FIN courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 252, Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201, Introduction to Economics; or ECON 251G, Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 252G, Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>FIN 341, Financial Analysis and Markets</td>
<td>3</td>
</tr>
<tr>
<td>Any three additional, upper division, finance courses numbered 310 or higher</td>
<td>9</td>
</tr>
<tr>
<td>Any additional upper division business course</td>
<td>3</td>
</tr>
</tbody>
</table>

**MINOR:** Risk Management and Insurance

The minor in Insurance is available to students of all majors (business and non-business) and is designed to give students the opportunity to obtain specialized expertise in the field of insurance. Students pursuing this option will be advised by the director of the insurance studies program and will be encouraged to pursue internships and co-op experiences in the insurance industry.

**Requirements:** Completion of the courses listed below with a minimum cumulative GPA of 2.0 in these courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLAW 316, Legal Environment of Business; or BLAW 385V, Consumers and the Law</td>
<td>3</td>
</tr>
<tr>
<td>FIN 322, Principles of Insurance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 341, Financial Analysis and Markets</td>
<td>3</td>
</tr>
<tr>
<td>Three additional upper division finance courses chosen from FIN 323, Life/Health/Employee Benefits; FIN 324, Property and Liability Insurance; FIN 326, Business Risk Management; FIN 392, Insurance Internship and Cooperative Education I; and FIN 421, Financial Planning for Professionals</td>
<td>9</td>
</tr>
<tr>
<td>Any additional upper division business course</td>
<td>3</td>
</tr>
</tbody>
</table>

**MINOR:** Banking

The minor in Banking, available to students of all majors (business and non-business), is designed to give students the opportunity to obtain specialized expertise in the field of Banking. Students pursuing this option will be advised by the coordinator of the Banking program and will be encouraged to pursue internships and co-op experiences in the Banking industry.

**Requirements:** Completion of the courses listed below with a minimum cumulative GPA of 2.0 in these courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 252, Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>FIN 341, Financial Analysis and Markets</td>
<td>3</td>
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<tr>
<td>FIN 385, Analysis of Financial Markets and Institutions</td>
<td>3</td>
</tr>
<tr>
<td>FIN 406, Theory of Financial Decisions</td>
<td>3</td>
</tr>
<tr>
<td>FIN 480, Management of Financial Institutions</td>
<td>3</td>
</tr>
<tr>
<td>Two additional upper division courses chosen from FIN 322, Principles of Insurance; FIN 326, Business Risk Management, FIN 395, Investments; FIN 391, Finance Internship (with emphasis in Banking); FIN 421, Financial Planning for Professionals, ACCT 301, Financial Accounting I; BLAW 418, Uniform Commercial Code and Advanced Business Law</td>
<td>6</td>
</tr>
</tbody>
</table>

**Prerequisites:**

Many courses in this program have prerequisites. Please see course descriptions in the catalog for prerequisites.

## MANAGEMENT

**Professor Bonnie F. Daily, department head**

Professors Benson, Boje, Dorfman, Jun, Manning, Teich; Associate Professors Adler, Bishop, Chavez, Elias, Gray, Rosile, Weisinger; Assistant Professor Azadegan, (575) 646-1201

**DEGREE:** Bachelor of Business Administration

**MAJOR:** Management

**OPTIONS:** Human Resources Management, Managerial Leadership, Project and Supply Chain Management, Small Business Management
Entrepreneurship
MAJOR: General Business
OPTIONS: General Business, Entrepreneurship
MINOR: Management

DEGREE: Bachelor of Business Administration
MAJOR: Management

The Department of Management invites you to consider a major in management. Do you like to work with people? Need help solving people problems at work? Hope to start your own business? Want to run an environmental project or a bank, a store, a farm, or a government agency? Are you interested in how people from diverse backgrounds work together to achieve common goals? If you answered yes to any of these questions, you should consider a degree in management. The mission of the department is to prepare graduates, with a Bachelor of Business Administration, for management careers in a broad spectrum of New Mexico, national, and globally oriented businesses. Management graduates work in small and large agricultural, manufacturing, government, transportation, public utility, merchandising, health care, environmental, and communications organizations among others.

The study of management offers the opportunity to develop skills in utilizing human, physical, and economic resources to achieve organizational objectives. These are important cross-functional skills in today’s competitive job market. Students will acquire the skills and knowledge to develop their potential and to lead others in a common mission. Management majors may choose from program options in human resource management, managerial leadership, project and supply chain management, or small business management, and entrepreneurship. Every candidate for this degree must fulfill the following requirements in addition to the general education and other foundation courses, the business core, viewing a Wider World courses and general electives courses (see above). Students will choose one of the four options that follow.

OPTION: Human Resource Management

Major Courses (24 credits)
MGT 332, Human Resources Management .................................................3
MGT 451, Selection, Placement, and Performance Evaluation ..................3
MGT 460, Compensation Management ....................................................3
MGT 458, Comparative International Management or MGT 465, Contemporary Issues in Human Resources Management ..................3
Electives in management, upper division ....................................................12

OPTION: Managerial Leadership

Major Courses (24 credits)
MGT 347, Management Functions and Processes .......................................3
MGT 453, Leadership and Motivation ......................................................3
MGT 454, Work Teams in Organizations ..................................................3
Electives in management, upper division ....................................................15

OPTION: Project and Supply Chain Management

Major Courses (24 credits)
MGT 345V, Quality and Competitiveness: An International Perspective ....3
MGT 351, Supply Chain Management ....................................................3
MGT 466, Managing Electronic Commerce: A Business Model Perspective 3
MGT 470, Project Management in Organizations ......................................3
Electives in Management, upper division ................................................12

OPTION: Small Business Management and Entrepreneurship

Major Courses (24 credits)
MGT 332, Human Resources Management ...............................................3
MGT 361, Small Business Management ....................................................3
MGT 461, Seminar in Entrepreneurship .....................................................3
MGT 448, Small Business Consulting ......................................................3
Electives in management, upper division ....................................................12

MAJOR: General Business

The major in general business is based on a broad range of course options rather than a narrow focus on a single discipline. Graduates find careers in large and small businesses, in government agencies, and in the nonprofit sector. The general business major is well suited to the part-time and working student because courses are available in the late afternoon and evening. The entrepreneurship option is ideal for a student interested in starting or acquiring a small business or entering a family business upon graduation. The curriculum provides a focus on small and new enterprises, thus reflecting the entrepreneurial nature of contemporary business in the U.S.

Every candidate for this degree must fulfill the following requirements in addition to the general education and other foundation courses, the business core, viewing a Wider World courses and general electives courses (see above). Students will choose one of the three options that follow.

OPTION: General Business

Major Courses (24 credits)
Major requirements (upper division) ..........................................................24
No more than 9 credits may be taken in any one prefix:
Accounting (ACCT) ..................................................................................3
Business Administration (BA) ..................................................................3
Business Computer Information Systems (BCIS) ......................................3
Business Law (BLAW) .............................................................................3
Economics (ECON) ..................................................................................3
Finance (FIN) ..........................................................................................3
International Business (IB) .....................................................................3
Management (MGT) ...............................................................................3
Marketing (MKTG) ..................................................................................3

Note: The general business option is offered through distance education as well as on campus courses.

OPTION: Entrepreneurship

Major Courses (24 credits)
MGT 332, Human Resources Management ...............................................3
MGT 361, Small Business Management ....................................................3
MGT/MKTG 461, Seminar in Entrepreneurship .........................................3
MGT/BA 448, Small Business Consulting ................................................3
Major requirements (upper division) ..........................................................12
Of the remaining 12 credits for the entrepreneurship option, no more than 9 credits may be taken in any one prefix:
Accounting (ACCT) ..................................................................................3
Business Administration (BA) ..................................................................3
Business Computer Information Systems (BCIS) ......................................3
Business Law (BLAW) .............................................................................3
Economics (ECON) ..................................................................................3
Finance (FIN) ..........................................................................................3
International Business (IB) .....................................................................3
Management (MGT) ...............................................................................3
Marketing (MKTG) ..................................................................................3

OPTION: Tribal Management

This option is offered to students who complete the tribal management option offered at Southwestern Indian Polytechnic Institute and wish to complete a BBA with a major in general business at NMSU.

Major Courses (24 credits)
MGT 391, Internship with a Tribal Organization .......................................3
MGT 491, Internship with a Tribal Organization .......................................3
Upper division electives in business .........................................................18
No more than 9 of the 18 credits may be taken in any one prefix:
Accounting (ACCT) ..................................................................................3
Business Administration (BA) ..................................................................3
Business Computer Information Systems (BCIS) ......................................3
Business Law (BLAW) .............................................................................3
Economics (ECON) ..................................................................................3
Finance (FIN) ..........................................................................................3
International Business (IB) .....................................................................3
Management (MGT) ...............................................................................3
Marketing (MKTG) ..................................................................................3
MINOR: Management

The management minor requires 18 credits in management. Business majors must take any six upper-division management or BUSA courses (3 credits each). NOTE: BUSA 365 totals 3 management credits for purposes of the management minor. The management minor for non-business majors consists of: one course from MGT 309 or MGT 315V (not both); plus five other upper division management courses (one 3-credit upper division course in the College of Business may substitute for one of the required five management courses).

To obtain a Management minor, a grade of C or better must be attained in the courses required.

MARKETING

Professor Elise Pookie Sautter, department head
Professors Hampton, Hyman, Peterson, Tian; Associate Professors Boberg, Huhmann; Assistant Professor Jasso, Niculescu, Payne; College Associate Professor Gavin,
(575) 646-3341
PGA (575) 646-2814
Director Gavin; Assistant Director White

DEGREE: Bachelor of Business Administration
MAJOR: Marketing
OPTION: PGA Golf Management

MINORS: Advertising
Marketing
Sport Marketing

DEGREE: Bachelor of Business Administration
MAJOR: Marketing

The marketing major forms the basis for management and operational careers in marketing management, advertising, market research, sales and sales management, distribution management, and retailing. The major is designed to allow a great deal of choice so the student may emphasize any one of these areas.

Most marketing majors enter into careers in business firms, although some find job opportunities in governmental and other nonprofit organizations. Still others become involved in owning and managing their independent companies. Opportunities in entrepreneurship and small business are expanding at a rapid pace.

Every candidate for this degree must fulfill the following requirements in addition to the general education and other foundation courses, the business core courses, Viewing a Wider World and general electives (see above).

Major Courses (24 credits)
MKTG 310, Marketing Research ......................................................... 3
MKTG 489, Strategy and Policy ......................................................... 3
Marketing electives: any six MKTG courses selected .......................... 18

OPTION: PGA Golf Management

Major Courses (30 credits)
MKTG 180, PGA Golf Management Freshman Orientation ............... 3
MKTG 181, Level 1, PGA’s PGM Education Program (Part 1) .......... 1.5
MKTG 280, Level 1, PGA’s PGM Education Program (Part 2) ........ 1.5
MKTG 281, Level 2, PGA’s PGM Education Program (Part 3) ........ 1.5
MKTG 310, Marketing Research ....................................................... 3
MKTG 311, Consumer Behavior ....................................................... 3
MKTG 380, Level 2, PGA’s PGM Education Program (Part 2) ........ 1.5
MKTG 381, Level 3, PGA’s PGM Education Program (Part 1) ....... 1.5
MKTG 480, Level 3, PGA’s PGM Education Program (Part 2) ....... 1.5
MKTG 481, PGA Golf Management Final Experience .................... 3

Elective in Marketing, upper division ................................................. 9

Note: Students must apply separately to the PGA Golf Management Program for acceptance. Acceptance is limited to the fall of every year.

Other PGA Golf Management Requirements (10 credits)
HORT 301, Introduction to Landscape Horticulture ........................... 3
HRTM 377/HORT 401, Turf Management ........................................... 4
HRTM 362/HRTM 450, Food Service Management .............................. 3

MINOR: Marketing
Requirements: 18 or more credit hours in an approved plan of study. The minor includes:

1. Twelve credit hours of MKTG courses (HORT 301 Hospitality, Restaurant and Tourism Marketing may be substituted here)
2. Six additional credits of coursework from any College of Business prefix (including MKTG). Marketing-related courses outside the College of Business may be substituted with approval of the department head of Marketing. A list of commonly approved courses is available at the department office.
3. All courses must be upper-division (300 level or above) and must be approved by the Marketing department head.
4. A cumulative grade point average of 2.0 for the 18 credits must be earned.
5. As soon as you consider a minor in Marketing, visit the Department of Marketing, Business Complex, room 209.

MINOR: Sport Marketing
Requirements: 18 or more credit hours in an approved plan of study. The minor includes:

1. MKTG 303, Principles of Marketing; BLAW 313, Sports Law; and MKTG 454, Sports Marketing
2. Three additional credits of MKTG courses.
3. Six additional credits of coursework from any College of Business prefix (including MKTG). Marketing-related courses outside the College of Business may be substituted with approval of the department head of Marketing. A list of commonly approved courses is available at the department office.
4. All courses must be upper-division (300 level or above) and must be approved by the Marketing department head.
5. A cumulative grade point average of 2.0 for the 18 credits must be earned.
6. As soon as you consider a minor in Sport Marketing, visit the Department of Marketing, Business Complex, room 209.

MINOR: Advertising
Requirements: 18 or more credit hours in an approved plan of study. The minor includes:

1. MKTG 303, Principles of Marketing; MKTG 311, Consumer Behavior; MKTG 314, Advertising Strategy; and MKTG 459, Promotion Management
2. Six additional credits of coursework from any College of Business prefix (including MKTG). Marketing-related courses outside the College of Business may be substituted with approval of the department head of Marketing. A list of commonly approved courses is available at the department office.
3. All courses must be upper-division (300 level or above) and must be approved by the Marketing department head.
4. A cumulative grade point average of 2.0 for the 18 credits must be earned.
5. As soon as you consider a minor in Marketing, visit the Department of Marketing, Business Complex, room 209.
Bachelor of Arts in Dance
Bachelor of Science in Athletic Training Education
Bachelor of Science in Education— Majors in Early Childhood Education, Elementary Education, and Secondary Education with endorsements in Bilingual Education, Business Education, Foreign Languages, General Science, Language Arts, Mathematics, Physical Education, Social Studies, TESOL; Major in Special Education; Major in Communication Disorders
Bachelor of Science in Kinesiology

The College of Education provides undergraduate students with a broad general education and professional teacher training.

General Requirements
1. Entering freshman with an ACT score of 17 or lower will be invited to take a study skills class to ensure a successful college experience.
2. Complete at least 132 acceptable credits, including a minimum of 48 credits in courses numbered 300 or above with a cumulative GPA of 2.50 or above.
3. Students in teacher preparation programs must pass the New Mexico Teacher Assessments Basic Skills test prior to Admission to education courses numbered above 299.
4. Satisfy the general education requirements. Detailed programs are available in the College of Education Advisement Center. General education requirements will be individually planned for those students with an ACT composite standard score of 25 (85th percentile) or a 1020 SAT score (84.1 percentile).
5. Students in teacher preparation programs must be officially admitted to the Teacher Education Program. See requirements under Admission to the Teacher Education Program and Competitive Admission Process.
6. Be officially admitted to student teaching during the senior year. Requirements are below.
7. Prior to student teaching, complete teaching field requirements, and pass the Content Knowledge of the New Mexico Teacher Assessments test.
8. Students must complete all professional education courses and all courses in their teaching field or major with a grade of C or better.
9. All students, including transfer students, must complete the last 30 semester credits required for the baccalaureate degree on the New Mexico State University campus. The four-year Servicemen’s Opportunity College Program students are not exempt from this regulation.
10. Each student must possess the academic ability, character, and disposition suitable for teaching. A student who, in the professional judgment of the faculty and staff, does not possess these qualifications may be examined by a Selective Review Committee. The committee may recommend any of a variety of actions, ranging from remedial procedures to withdrawal from the College.
11. All majors require a minimum 2.50 cumulative GPA to graduate, except Communication Disorders, which requires a 3.00 cumulative GPA.
12. Students with a bachelor’s degree seeking teacher licensure must meet all admission criteria for the Teacher Education Program and be admitted to the Graduate School.

In addition, if faculty at any time determine that a student is weak in a particular skill, the College of Education may require remedial procedures in areas such as mathematics, composition, speaking, or other skills needed for success in public school teaching.

The above requirements are established for those seeking a teaching license. Other programs in the college such as Athletic Training, Nonlicensure, Physical Education, and Communication Disorders have specific requirements. Check in the advisement office or appropriate departments for program information.

Competitive Admission Process
Applicants who successfully complete the minimum requirements for admission will be reviewed by the Teacher Education Program admission committee. The admission committee will base admissions decisions on applicants’ academic qualifications, written communication, faculty recommendations for the student and the student’s portfolio.

Applicants should be aware that admission to the Teacher Education Program is competitive and is based upon available faculty resources. Posted GPA and basic skills test scores are minimums which are necessary to be considered for admission by the Teacher Education Program committee and do not ensure admittance into programs. Applicants are encouraged to develop a strong student portfolio, achieve the highest GPA possible, and present the portfolio in a professional manner.

Suggested Program of Study
Requirements of a general nature and for each endorsement are available in the advisement center of the college. It is imperative that students, especially those new to the campus, report frequently to the advisement center to have their programs carefully and continually monitored in line with newly developing requirements.

All students henceforth will pursue a baccalaureate program leading to a Level I Teaching License. Preparation for this license includes 55 credits of general education, a professional block of coursework of 36 credits in elementary education or 30 credits in secondary education, teaching field specialty blocks or endorsements of from 24 to 54 credits, and the remainder in electives. Students are urged to acquire as many endorsements to the initial license as possible. General education courses can be counted again within the endorsement areas when appropriate.

College of Education Course Fees
Beginning spring 2007, a fee may be assessed for most College of Education courses, both undergraduate and graduate. The fee will average $30 per course. Funds generated by this fee will be used for expanding and improving

Accreditation
The university’s teacher preparation program, which involves several colleges and which is directed by the College of Education, was accredited in 1982 by the National Council for the Accreditation of Teacher Education. Also, in the College of Education, the Communication Disorders master’s program in Speech-Language Pathology is accredited by the American Speech-Language-Hearing Association (ASHA), and the undergraduate athletic training program in Physical Education, Recreation, and Dance is accredited by the Commission on Accreditation of Allied Health Education Programs. The Physical Education Program is approved by the National Association for Sports and Physical Education. The undergraduate and graduate programs that prepare individuals for licensure to work in public and private schools in New Mexico have been approved by the New Mexico State Board of Education.
field experience programs, internships, and practicums and to better comply with federal, state, and accrediting body standards.

Transferring Early Childhood Education Courses

The following early childhood education courses have been identified as transferable from NMSU to other public two-year and four-year institutions in New Mexico. The equivalent course at other institutions can be identified using the common course number which appears in parentheses below. Similarly, students from other institutions can use the common course number to identify early childhood education courses that can be transferred to NMSU.

- ECED 115, Child Growth and Development and Learning (1113)
- ECED 125, Health, Safety and Nutrition (1112)
- ECED 135, Family and Community Collaboration (1133)
- ECED/SPED 225, Assessment of Children and Evaluation of Programs (ECED 1143)
- ECED 245, Professionalism (2152)
- ECED 215, Curriculum Development and Implementation I (2163)
- ECED 220, Curriculum Development and Implementation I (2162 and Practicum for ECED 2163)
- ECED 225, Curriculum Development and Implementation II (2173)
- ECED 230, Curriculum Development and Implementation II (2172 and Practicum for ECED 2173)
- ECED 265, Guiding Young Children (2183)
- ECED 225, Introduction to Reading and Literacy (READ 2113)

General Education Requirements

1. Twelve to thirteen credits in English (language arts)
2. Twelve credits in history, including American history and western civilization
3. Six credits in mathematics
4. Six credits from among the following social sciences: government, economics, sociology, anthropology, geography
5. Twelve credits in science from among the following sciences: biology, chemistry, physics, geology, astronomy
6. Six credits in fine arts.

NOTE: General Education requirements were under revision at the time of publication. Students must check with the Education Advising Center for current requirements and lists of specific courses that meet these requirements.

Minors

The college offers minors in counseling and educational psychology, exercise science, early childhood and dance. Those interested in the counseling area, with a view to eventually enter this professional specialty should contact the Department of Counseling and Educational Psychology for advice.

Cooperative Education Program

Cooperative Education Program students work in public schools while meeting their certification requirements. The possibility of student teaching in an international setting enhances this option. Qualified students may earn financial assistance through this program. For details, contact:

Director, Cooperative Education
College of Education
NMSU
P O Box 30001,
Las Cruces, NM 88003-8001

Transfer Students

Transfer students will have their transcripts evaluated by the Registrar’s Office and must meet all basic skills requirements, as well as be admitted to the Teacher Education Program through the formal application procedures. (See “Admission to the Teacher Education Program” below.)

Students with Degrees Seeking Certification Only

All students who already have a bachelor’s degree and who are seeking licensure must be admitted through a graduate licensing program. Details are available in the advisement center.

Admission to the Teacher Education Program

Even though students declare their majors when they enter New Mexico State University, teacher candidates are not officially admitted to the Teacher Education Program until they formally apply and meet the following requirements:

1. A cumulative grade-point average of at least 2.50
2. Must complete 55 credit hours
3. Complete appropriate program prerequisites. See College of Education Advisement Center for specific program prerequisites.
4. Demonstration of competence in reading, mathematics, and composition by passing the Basic Skills component of the New Mexico Teacher Assessments test.
5. Submit a portfolio for admission to the Teacher Education Program. The portfolio will be reviewed by faculty. Admission to TEP is contingent on faculty approval. See the COE Advisement Center for further clarification.

Competitive Admission Process

Applicants who successfully complete the minimum requirements for admission will be reviewed by the Departmental Admission Committee. The admission committee will base admissions decisions on the applicants’ academic qualifications, written communication, faculty recommendations, and the student’s portfolio.

Applicants should be aware that admission to the Teacher Education Program is competitive and is based upon available faculty resources.Posted GPA, basic skills test scores and other prerequisites are minimums which are necessary to be considered for admission and do not ensure admittance into programs. Applicants are encouraged to develop a strong student portfolio, achieve the highest GPA possible, and present the portfolio in a professional manner.

Students who are not admitted may not take designated professional education courses numbered above 299. Students with a bachelor’s degree seeking teacher licensure must meet all admission criteria for the Teacher Education Program and be admitted to the Graduate School.

Time Limit on Undergraduate Education Courses

Any education course more than seven years old taken at NMSU or at another institution will not be counted toward the student’s undergraduate program. A student may ask for a review of this time limit by the appropriate department. The department head and/or faculty may recommend accepting a course that is seven years old with approval from the Deans’ office. Any course not approved must be repeated by the student.

Withdrawing Students

The College of Education reserves the right to withdraw students who are registered in 300-level or above education classes who are not admitted to the Teacher Education Program.

Admission to Student Teaching

To be admitted to student teaching a student must:

1. Submit complete formal application to the College of Education Advisement Center by March 9 for spring and by October 9 for fall a year prior to student teaching.
2. Maintain a cumulative grade-point average of at least 2.50 prior to beginning student teaching.
3. Complete the teaching field requirements and pass the Basic Skills and Content Knowledge tests of the New Mexico Teacher Assessments.
4. Complete all prerequisites to student teaching (details available from the advisement center).
5. Students must complete all professional education courses and all courses in the student’s teaching field with a grade of “C” or better.
6. Departmental faculty must approve a student’s application for student teaching prior to assignments being finalized.

Students who do not meet all College of Education requirements for admission to student teaching will not be allowed to begin their student teaching until those requirements are met.

Student teachers can only be placed within an 80-mile radius of the campus in state.

Student Teaching Expectations

During the senior year, students must keep their last semester free from other responsibilities so that they can devote full time to their student teaching responsibilities. Students should not have any outside commitments that will interfere with their student teaching activities. Students may be expected to follow the public school calendar rather than the university calendar. Student teachers should expect to meet all requirements of the school and school district in which they are working.
Licensure Requirements
In the event that state teacher licensure requirements change, students preparing for licensure to teach should keep abreast of the licensure requirements of the State Department of Education. Copies of the rules and regulations governing licensure are available for students in the Advisement Office and at the Office of the Dean of the College of Education. College of Education requirements meet or exceed the state licensure requirements. Whenever state licensure requirements are less than College of Education requirements, students must meet the College of Education requirements to receive a degree from or be recommended for licensure by NMSU. The College of Education reserves the right to change its requirements at any time in order to comply with changes in the regulations governing licensure.

Applying for teacher licensure is the responsibility of the student. The New Mexico Department of Education grants licensure. The State of New Mexico requires that all candidates for licensure take and pass the state license examination. Upon completion of the degree and planned programs in the teaching fields, students are eligible for teacher licensure upon successfully completing the state license examination. The test is administered annually and information is available through Testing Services in Garcia Annex.

Graduate Work
The College of Education offers curricula leading to the degrees of Master of Arts, Master of Arts in Teaching, Specialist in Education, Doctor of Education, and Doctor of Philosophy in education.

Those interested in pursuing graduate degrees in education should consult the Graduate Catalog for full information. A copy may be procured by writing the dean of the Graduate School.

COUNSELING and EDUCATIONAL PSYCHOLOGY

Professor Michael Waldo, interim department head
Professors Huber, E. Vázquez, L. Vázquez, Waldo, Associate Professors Adams, Arroyos-Jurado, DeNecochea, Merta; Assistant Professors Chun, Dickson, Grayshield, Navarro, Torres Fernandez
(575) 646-2121

MINOR: Counseling and Educational Psychology
A minor in counseling and educational psychology is available to the student receiving a bachelor’s degree from another department in the university. The minor in counseling and educational psychology is designed to be useful to the undergraduate who is preparing to enter one of the helping professions such as psychology, education, social work, criminal justice, or nursing.

The Department of Counseling and Educational Psychology offers programs leading to the degrees of Master of Arts, Specialist in Education, and Doctor of Philosophy. Students must be admitted by the department into a graduate program to earn a degree in counseling, school psychology, or counseling psychology. Students interested in earning graduate degrees should consult the Graduate School Catalog for requirements and contact the department for information on admissions.

MINOR: Counseling and Educational Psychology (18)
Any selection of C EP electives listed below that total 9 credits of lower division and 9 credits of upper division (300 and above):
- CEP 110G, Human Growth and Behavior ......................................................... 3
- C EP 210, Educational Psychology ................................................................. 3
- CEP 224, Adolescence in School Settings ....................................................... 3
- CEP 300, Human Relations Training ............................................................... 3
- CEP 320, Sex Roles in Education .................................................................... 3
- CEP 451, Introduction to Counseling ............................................................... 3
- CEP 455, Addictions Prevention .................................................................... 3
- CEP 461, Family Guidance ............................................................................ 3
- CEP 495, Psychology, Multiculturalism, and Counseling ............................. 3
- CEP 498, Independent Study .......................................................................... 3

CURRICULUM and INSTRUCTION

Professor James O’Donnell, department head
Associate Professor Betsy Cahill, associate department head/Teacher Licensure
Associate Professor Marc Pruyn, associate department head/Graduate Studies

Professors Baptiste, Chávez, Garcia, Morehead, Wiburg; Associate Professors Franzak, Hadfield, Haynes Writer, Kim, Mercado, Pruyn, Reyes, Torres; Assistant Professors Charles-Huerta, de Onis, Oesterreich, Rutledge; College Instructors N. Baptiste, Licona, Lopez, Kaye, Van Wie
(575) 646-4820

DEGREE: Bachelor of Science in Education
The primary function of the undergraduate programs in the Department of Curriculum and Instruction is the preparation of licensed teachers for early-childhood settings and elementary and secondary schools. This process includes a broad general education, professional education, and teaching specializations.

General Requirements
See “General Requirements” earlier in this chapter about competencies.

Professional Education Courses

I. Assumptions
A. All students will take a course in developmental psychology.
B. Field experiences will be interwoven throughout most courses.
C. All students, during their program will complete at least three Extended Field Experiences.

II. Professional Education Courses Required of All Students Seeking Elementary, Secondary Licensure, or Early Childhood

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>* C EP 210, Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDLT 368, Integrating Technology with Teaching</td>
<td>3</td>
</tr>
<tr>
<td>*EDUC 181, Field Experience I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 315, Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>*EMD 250, Introduction to Education</td>
<td>2</td>
</tr>
<tr>
<td>SPED 350, Survey of Programs for Exceptional Learners</td>
<td>3</td>
</tr>
<tr>
<td>Student Teaching</td>
<td>9</td>
</tr>
<tr>
<td>Student Teaching Seminar</td>
<td>3</td>
</tr>
<tr>
<td>*Early Childhood majors don’t take the identified courses</td>
<td></td>
</tr>
</tbody>
</table>

III. Professional Education Courses Required of All Students Seeking Early Childhood Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECED 115, Child Growth, Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>ECED 125, Health, Safety and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>ECED 135, Family and Community Collaboration</td>
<td>3</td>
</tr>
<tr>
<td>ECED 235, Introduction to Reading</td>
<td>3</td>
</tr>
<tr>
<td>ECED 255, Assessment and Children and Evaluation of Programs</td>
<td>3</td>
</tr>
<tr>
<td>ECED 265, Guiding Young Children</td>
<td>3</td>
</tr>
<tr>
<td>ECED 215, Curriculum Development and Implementation I</td>
<td>3</td>
</tr>
<tr>
<td>ECED 220, Practicum I-Infant/Toddler</td>
<td>2</td>
</tr>
<tr>
<td>ECED 225, Curriculum Development and Implementation II</td>
<td>3</td>
</tr>
<tr>
<td>ECED 230, Practicum II-Pre-K/Kindergarten</td>
<td>2</td>
</tr>
<tr>
<td>ECED 245, Professionalism</td>
<td>2</td>
</tr>
<tr>
<td>ECED 315, Research in Child, Growth, Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>ECED 335, Family and Community Collaboration II</td>
<td>2</td>
</tr>
<tr>
<td>SPED 451, Assessment of Young Children (SI)</td>
<td>2</td>
</tr>
<tr>
<td>ECED 420, Integrated Early Childhood Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>ECED 425, Practicum I-1st-3rd Grade</td>
<td>2</td>
</tr>
<tr>
<td>ECED 430, Methods and Materials for Early Primary Grades</td>
<td>3</td>
</tr>
<tr>
<td>ECED 435, Practicum II-1st-3rd Grade</td>
<td>2</td>
</tr>
<tr>
<td>RDG 415, Teaching Reading and Writing</td>
<td>3</td>
</tr>
<tr>
<td>RDG 418, Reading and Writing</td>
<td>1</td>
</tr>
<tr>
<td>ECED 405, Home Center School Collaboration</td>
<td>3</td>
</tr>
</tbody>
</table>
ECED 440, Science/Math Curriculum ................................................................. 3
ECED 441, Language Arts/Social Studies .......................................................... 3
ECED 451, Play/ECED Curriculum ................................................................. 3
ECED 452, Teaching Language/Minority Child ................................................. 3
ECED 455, Art/Music/P E .................................................................................. 3
SPED 450, Working with Young Children (I) ........................................... 3
SPED 464, Working w/Young Children w/Special Needs, Ages Birth-2 or ECED 465, Working with Handicapped Infants and Their Families .................. 3
RDG 250, Reading Processes-Methods ......................................................... 3

IV. Professional Education Courses Required of Elementary Teachers
EDUC 450, Early Childhood Education ....................................................... 3
EDUC 451, The Science Curriculum ............................................................... 3
EDUC 452, The Math Curriculum ................................................................. 3
EDUC 453, The Language Arts Curriculum ................................................. 3
EDUC 454, The Social Studies Curriculum ................................................. 3
RDG 360, Elementary School Literacy I ....................................................... 3
RDG 361, Elementary School Literacy II ...................................................... 3
SPED 360, Curriculum, Methods, and Materials for Elementary Special Education ................................................................. 3

V. Professional Education Courses Required of Secondary Teachers
EDUC 301, Field Experience III .............................................................. 2
EDUC 475, Contemporary Issues in Education ......................................... 3
RDG 414, Content Area in Literacy ............................................................... 3
SPED 480, Diagnostic Assessment for Teachers of Secondary Students ........ 3
One of the following courses:
EDUC 460, Methods of Language Arts ....................................................... 3
EDUC 461, Methods of Social Studies .......................................................... 3
EDUC 462, Methods of Mathematics .............................................................. 3
EDUC 463, Methods of Science ................................................................. 3
EDUC 464, Methods of Foreign Language .................................................. 3
EDUC 466, Methods of Physical Education ................................................... 3
EDUC 467, Methods of Teaching Business Education ................................... 3

MAJOR: Elementary Education
General education and professional education are similar for all degree programs in the College of Education. Students should meet with an advisor to plan appropriate general education courses for an elementary education major.

Language Arts Teaching Field Elementary (24 credits)
COMM 253G, Public Speaking; or 265G Principles of Human Communication 3
ENGL 211G, Writing in the Humanities and Social Sciences, or
ENGL 311G, Advanced Composition ............................................................... 3
ENGL 363, Literature for Children and Young Adults .................................. 3
RDG 360, Elementary School Literacy I ....................................................... 3
RDG 361, Elementary School Literacy II ...................................................... 3
Language Arts electives (ENGL, RDG, THTR, COMM, or LING) ................. 9

Social Studies Teaching Field Elementary (24 credits)
ANTH elective ............................................................................................... 3
ECON elective ............................................................................................... 3
GEOG elective ............................................................................................... 3
HIST 101G, Roots of Modern Europe; HIST 102G, Modern Europe ............... 3
HIST 201G, Introduction to Early American History, or HIST 202G, Introduction to Recent American History, ............................................... 3
HIST 368, Teaching History ......................................................................... 3
SOC/HIST elective ......................................................................................... 3

Science Teaching Field Elementary (24 credits)
BIOL elective ................................................................................................. 3
CHEM elective ............................................................................................... 3
GEOL or GEOG elective .................................................................................. 3
PHYS elective ................................................................................................. 3
Twelve credits in science from the general education requirements on degree plan ................................................................. 12

Mathematics Teaching Field Elementary (24 credits)*
Core Courses:
MATH 111, Fundamentals of Elementary Mathematics I .............................. 3
MATH 112G, Fundamentals of Elementary Mathematics II .......................... 3
STAT 251G, Statistics for Business and the Behavioral Sciences .................. 3

Choose 15 credits from the following:
EDUC 452, Methods of Teaching Elementary School Mathematics ............. 3
MATH 120, Intermediate Algebra ................................................................... 3
MATH 142G, Calculus for the Biological and Management Sciences I ........... 3
MATH 121G, College Algebra ......................................................................... 3
MATH 313, Fundamentals of Algebra and Geometry .................................... 3

*Students with consent of an adviser and the mathematics department may take higher level math classes.

Elementary Education Endorsement Areas (24 credits)
Elementary Education majors are required to complete a teaching field (endorsement area) in an academic discipline. A list of concentration areas is available in the Education Advisement Center.

Bilingual/TESOL Endorsement
Students interested in a bilingual or TESOL endorsement should contact the advisement office. These endorsements can now be included in an undergraduate degree program without significant additional hours required.

Foreign Language Requirement
All elementary education majors are required to take six to eight credits of Spanish or obtain certification of a working knowledge of a Native American language.

MAJOR: Secondary Education
General education and professional education requirements are similar for all degree programs in the College of Education. Students should meet with an advisor to plan appropriate general education courses for a secondary education major. In addition, students must complete a broad teaching field. Further information on the following teaching fields is available from the Education Advisement Center.

Business Education (36 credits)
ACCT 251, Management Accounting ................................................................ 3
ACCT 252, Financial Accounting ..................................................................... 3
AXED 445, Developing Excellent Programs in Career and Technical Education 3
BCIS 338, Business Information Systems ....................................................... 3
BLAW 316, Legal Environment of Business ................................................. 3
BOT 203, Office Equipment and Procedures I ................................................. 3
BUS 111, Business in Global Society .............................................................. 3
ECON 251G, Principles of Microeconomics, ECON 252G, Principles of Macroeconomics ................................................................. 3
I B 351, International Business ...................................................................... 3
MGT 309, Human Relations in Business ........................................................ 3
MKTG 303, Principles of Marketing ............................................................... 3
300+ Business Elective ................................................................................... 3
Choose two of the following:
I B 351, International Business ...................................................................... 3
FIN 303V, Personal Financial Planning and Investing in a Global Economy .... 3
MGT 309, Human Relations in Business ........................................................ 3
MKTG 303, Principles of Marketing ............................................................... 3

French Education (30-35 credits*)
FREN 111, Elementary French I .................................................................... 4
FREN 112, Elementary French II ...................................................................... 4
FREN 211, Intermediate French I .................................................................... 3
FREN 212, Intermediate French II ................................................................. 3
FREN 313, Composition and Grammar I ....................................................... 3
FREN 314, Composition and Grammar II ....................................................... 3
FREN 325, Intermediate Conversation ........................................................... 3
FREN 352, French Phonics ............................................................................. 3
FREN 378, Studies in Francophone Culture .................................................. 3
FREN 300 or above elective ........................................................................... 6
German Education (30-35 credits*)

GER 111, Elementary German I .................................................................4
GER 112, Elementary German II .................................................................4
GER 211, Intermediate German I .................................................................3
GER 212, Intermediate German II .................................................................3
GER 313, Intermediate Composition and Grammar I ....................................3
GER 325, German Conversation I, or GER 425, German Conversation III ...3

Choose five of the following:

GER 362, German Studies ...............................................................................3
GER 363, Austria and Switzerland .................................................................3
GER 331, German Lyric Poetry ......................................................................3
GER 341, German Folklore and Culture .......................................................3
GER 371, German Short Story ........................................................................3
GER 391, History of the German Language ..................................................3

*Due to previous experience, students may be able to start beyond the elementary or intermediate levels. Elective credits in German will be substituted to make a minimum in the field of 30 credits.

Language Arts (51 credits)

Students must complete all of the core courses and one of the subject areas.

Core Courses

COMM 253G, Public Speaking, or COMM 286G, Principles of Human Communication .................................................................3
COMM 384, Interpersonal Communication ..................................................3
COMM 378, Communication and Culture ....................................................3
ENGL 211G, Writing in the Humanities and Social Sciences, or ENGL 311G, Advanced Composition ..................................................3
ENGL 251 or ENGL 252, Introduction to American Literature ..................3
ENGL 339V, 341V, or 394V, Multicultural Literature ......................................3
ENGL 401, 402, 403, or 404, English/American Literature ..........................3
ENGL 408 or ENGL 409, Shakespeare ......................................................3
ENGL 416, Approaches to Literature .............................................................3
ENGL 451, Practicum in Grammar ...............................................................3
ENGL 470, Approaches to Composition .......................................................3
LING 200G, Introduction to Language ........................................................3
JOUR 105G, Introduction to Mass Communication .......................................3
THTR 360, Creative Dramatics ......................................................................3

Choose one of the following:

ENGL 220, Imaginative Writing ....................................................................3
ENGL 304, Creative Writing: Prose ..............................................................3
ENGL 306, Creative Writing: Poetry .............................................................3

One of the following areas:

Communication Studies

COMM 351, Persuasion Theory .................................................................3

Choose 1 of the following

COMM 353, Advanced Public Speaking ....................................................3
COMM 370, Organizational Communication ............................................3
COMM 435, Psychology of Human Communication .....................................3
COMM 450, Technologies of Human Communication ..................................3
COMM 465, Nonverbal Communication ....................................................3

English (two of the following four courses)

ENGL 421, Advanced Study in a Literary Period or Movement ......................3
ENGL 422, Advanced Study in a Literary Form or Genre ................................3
ENGL 423, Advanced Study in a Major Author ...........................................3
ENGL 424, Advanced Study in a Major Text .................................................3

Journalism and Mass Communication

JOUR 110, Introduction to Mass Media Writing .........................................3
JOUR 210, Print News writing ......................................................................3

Theatre Arts

THTR 105, Acting for Nonmajors ...............................................................3
THTR 130, Script Analysis I .........................................................................3
THTR 284, Stage Management ....................................................................3

Math Education (39 credits)

C S 171, Introduction to Computer Science ...............................................4
MATH 191G/191GL, Calculus and Analytic Geometry I and Lab .................4
MATH 192G/192GL, Calculus and Analytic Geometry II and Lab ...............4
MATH 279, Introduction to Finite Math ......................................................3
MATH 281, Introduction to Linear Algebra .................................................3
MATH 291G, Calculus and Analytic Geometry III ........................................3
MATH 331, Introduction to Modern Algebra ...............................................3
MATH 332, Introduction to Modern Analysis .............................................3
MATH 459, Survey of Geometry ..................................................................3
STAT 371, Statistics for Engineers and Scientists ......................................3
Math elective 275+ .....................................................................................3
Math elective 375+ .....................................................................................3

Physical Education (K-12) (35 credits)

PE P 185, Introduction and Foundations ....................................................3
PE P 208, Fitness for Health and Sport ......................................................3
PE P 210, Theory and Technique of Aquatics ..........................................2
PE P 216, Individual Activities ....................................................................2
PE P 323, Racquet Sports ............................................................................2
P EP 341, Motor Development ....................................................................3
PE P 342, Motor Learning ............................................................................3
PE P 363, Theory and Technique of Lifelong Outdoor Leisure Activities ....2
PE P 392, Theory and Technique of Sports and Games ............................2
PE P 393, Theory and Technique of Dance and Rhythm ............................2
PE P 394, Theory and Technique of Sports and Games II .........................2
PE P 410, Physical Education Curriculum and Assessment ......................2
SP M 305, Biomechanics ............................................................................3
SP M 308, Exercise Physiology ...................................................................3

Science 48-61 credits

Students must complete all of the core courses and one of the four composite areas.

Core Courses (31)

ASTR 105G, The Planets or ASTR 110G, Introduction to Astronomy .............4
BIOL 111G and BIOL 111L, Natural History of Life and Lab .......................4
BIOL 313, Structure and Function of Plants or BIOL 322, Zoology ...............3/4
CHEM 111G, General Chemistry I .............................................................4
CHEM 112G, General Chemistry II ............................................................4
GEOL 111G, Survey of Geology .................................................................4

PHYS 208, Physics by Inquiry I, and PHYS 209, Physics by Inquiry II, or PHYS 211G/L, General Physics I/Lab, and PHYS 212/L, General Physics II/Lab* ..................................................8

*Physics teachers should follow the physics composite in lieu of PHYS 211G and PHYS 212.

Composite Areas (complete one of the following areas):

Life Sciences (20 credits)

BIOL 301, Ecology .....................................................................................3
BIOL 305, Principles of Genetics ..................................................................3
BIOL 311/BIOI 311L, General Microbiology and Lab ................................5
BIOL 313, Structure and Function of Plants or BIOL 322, Zoology .............3
BIOL 467, Evolution ...................................................................................3
MATH 120, Intermediate Algebra ..............................................................3

Earth Sciences (24 credits)

GEOG 257, Introduction to Meteorology, or GEOG 357, Climatology .........3
GEOL 281, Map Use ...................................................................................3
GEOL 295, Environmental Geology, and GEOL 360, General Geochemistry ....6
GEOL 297, Historical Geology .................................................................3
GEOL 310, Mineralogy ...............................................................................3

*Due to previous experience, students may be able to start beyond the elementary or intermediate levels. Elective credits in French will be substituted to make a minimum in the field of 30 credits.
**Culture and Anthropology (24 credits)**

ANTH 301, Cultural Anthropology ............................................................... 3

ANTH 315, Introduction to Archaeology ............................................... 3

ANTH 320, Anthropological Linguistics .................................................. 3

ANTH 350, Anthropological Theory ........................................................ 3

ANTH 355, Physical Anthropology ......................................................... 3

ANTH elective (300 or above) ................................................................. 9

**Sociology/Anthropology (24 credits)**

SOC 351, Sociological Theory ................................................................. 3

SOC 352, Social Research Methods ....................................................... 3

SOC 371, Race and Ethnic Relations .................................................... 3

SOC 381, Individual and Society ........................................................... 3

SOC 392, Juvenile Delinquency ............................................................ 3

SOC electives (300 or above) ................................................................. 9

**Spanish Education (30-35 credits)**

SPAN 111, Elementary Spanish I ............................................................. 4

SPAN 112, Elementary Spanish II or 113, Beginning Spanish for Native Speakers ............................................................. 3

SPAN 211, Intermediate Spanish I or 213, Spanish for Native Speakers I ......................................................... 3

SPAN 212, Intermediate Spanish II or 214, Spanish for Native Speakers II ......................................................... 3

SPAN 313, Spanish Grammar or 312, Grammar for Native Speakers of Spanish ............................................................. 3

SPAN 314, Spanish Composition or 315, Composition for Native Speakers of Spanish ............................................................. 3

SPAN 325, Advanced Conversation, or SPAN 327, Advanced Oral Language ............................................................. 3

SPAN 340, Introduction to Spanish Linguistics ...................................... 3

SPAN 350, Introduccion a Estudios Chicanos ......................................... 3

SPAN 380, Introduction to Literature ..................................................... 3

SPAN 386, Hispanic Literature through the Seventeenth Century or SPAN 387 Hispanic Literature: Eighteenth and Nineteenth Century or SPAN 388 Contemporary Spanish Literature ......................................................... 3

*Due to previous experience, students may be able to start beyond the elementary or intermediate levels. Native speakers of Spanish may not be eligible for some sections. Please check the course descriptions for details. Elective credits will be substituted to make a minimum in the field of 30 credits.  

**EDUCATIONAL MANAGEMENT and DEVELOPMENT**

Associate Professor Gary Ivory, department head

Professors Townley; Associate Professors Armendáriz, Christman, Dominguez

Assistant Professors Arellano, Osanloo, Pepion, Prentice; College Instructor

Torres College Associate Professor Humada-Ludeke; College Assistant Professors

Hannan

(575) 646-3825

Work offered is primarily for graduate students working toward the Master of Arts, Doctor of Education, and Doctor of Philosophy degrees. Eight undergraduate courses are offered: EMD 101, Freshman Orientation; EMD 195, Teacher Pathway Orientation; EMD 250, Introduction to Education; EMD 350V, Introduction to Leadership in a Global Society; EMD 411, Foundations for School Library Specialists; EMD 412, Administration of the School Library; EMD 413, Curriculum Role of the School Library Specialist; and EMD 414, Collection Management and Development in School Libraries.
The Department of Educational Management and Development prepares (1) personnel for administrative positions in the public schools, (2) administrators for positions in higher education, and (3) educational management specialists for nonschool positions in business, industry, and government. In addition, the department provides service courses in the social, historical, and philosophical foundations of education at the graduate and undergraduate levels.

Full details on graduate programs are offered in the Graduate Catalog.

**HUMAN PERFORMANCE, DANCE AND RECREATION**

Joseph M. Berning, Interim Associate Department Head
Professor Coker; Associate Professor Knapp, Oliver, Berning; Instructors Benzonzi, Brock, Carson, Gabriel, Gilpin, Green, LaPorte, Meyer, Montoya
(575) 646-2215

**DEGREE: Bachelor of Science in Athletic Training Education**
**DEGREE: Bachelor of Science in Education—Teaching Physical Education**
**DEGREE: Bachelor of Science in Kinesiology**
**DEGREE: Bachelor of Arts in Dance**

**MINORS: Dance**
**Exercise Science**

The Department of Human Performance, Dance and Recreation prepares students for many diverse careers in the athletic training, fitness, wellness, corporate fitness, professional preparation (e.g. PT/OT school) and physical education teaching field depending upon the specific program of study in which he or she is enrolled. Further details of the four different degree programs; athletic training education, dance, kinesiology and physical education as well as possible career options are outlined under the individual degree programs below.

The department also offers minors in dance and exercise science.

**DEGREE: Bachelor of Science in Athletic Training Education**

**Athletic Training Education Program (131 credits)**

The New Mexico State University Athletic Training Education Program (ATEP) is accredited by the Commission on Accreditation of Athletic Training Education (CAATE), and exists to provide a challenging and comprehensive educational experience, which incorporates the values of a supportive academic and clinical community, in order to prepare future leaders in athletic training and allied health professions.

Students who successfully complete the degree requirements are eligible to take the Board of Certification (BOC) examination. Students who pass the BOC exam are certified athletic trainers (ATC).

**Application Procedures for Traditional Undergraduate Students**

A. The NMSU ATEP generally accepts up to 24 qualified students each spring. Acceptance is competitively based on the quality of the application materials and the interview process. Application to the NMSU ATEP requires the following:

1. Background Clearance ($)  
2. First Aid & CPR/AED-Professional Rescuer ($)  
3. Hepatitis B vaccination series ($)  
4. Annual Tuberculosis screening ($)  
5. Annual blood-borne pathogen training  
6. HIPAA training  
7. Physical exam by MD or DO  
8. Written statement of ability to meet the Technical Standards  
9. Official High School Transcripts  
10. Minimum High School GPA of 2.5  
11. College Transcripts  
12. Minimum College GPA of 2.5  
13. Three letters of recommendation  
14. Site visits to affiliated high school sites (Gadsden, Las Cruces, Mayfield, Onate)

15. Interview with ATEP faculty and clinical instructors  
16. Passing of prerequisite courses with a minimum grade of “C.”  
   a. SP M 190 – Introduction to Athletic Training  
   b. SP M 272 – Clinical Practicum I  
17. Be a regular status, full-time student  
18. Satisfy NMSU basic academic competency requirements in English and math

B. Applications to the NMSU ATEP are generally accepted on March 15.
C. Applicants are generally notified of acceptance into the ATEP after the spring grades are posted.

**NMMSI Articulation Agreement**

A. The NMSU ATEP has an articulation agreement with the New Mexico Military Institute (NMMSI) and Eastern New Mexico University-Roswell (ENMUR), which allows NMMSI students to apply to the NMSU ATEP during the spring of their freshman year, yet follow an approved curriculum plan at NMMSI through their sophomore year.

B. NMMSI students are required to meet the Application Requirements described under the Traditional Undergraduate Student section.

C. NMMSI students are given equal consideration with NMSU students who apply to the NMSU ATEP.

**Transfer Student Policy**

A. Transfer students who meet the Application Requirements are considered for admission into the ATEP provided there is space available. CAATE guidelines generally require a clinical ratio of no more than 8 students to 1 ATC.

B. In addition to all ATEP Application Requirements listed above, transfer students are considered based on the following criteria:

1. Official college/university transcripts are evaluated on an individual basis for credit towards NMSU ATEP requirements. To be considered for credit towards NMSU ATEP requirements, each course must have a grade of “C” or higher. Transcript courses at the 100 and 200 level are generally not accepted as a 300 or 400 level equivalent.
2. Prospective transfer students who were previously accepted into another CAATE-accredited ATEP must provide official transcripts and course descriptions of all relevant coursework. Provided there is space available in the NMSU ATEP, the level at which the transfer student is placed will depend on the evaluation of the official transcripts and course descriptions provided by the prospective transfer student.
3. Prospective transfer students must be eligible to return to the college/university they last attended. An applicant who is under suspension is not considered for admission until the terms of the suspension at the previous institution are met.
4. Students who wish to graduate from NMSU are generally required to complete 30 of their last 36 credits at NMSU. See the current NMSU catalog for more information regarding this and other transfer student policies.

**Athletic Training Education Program Curriculum (86-87 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 254</td>
<td>Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HNFS 251</td>
<td>Human Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>PE P 304</td>
<td>The Psychology of Sport and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>PE P 411</td>
<td>Statistical Applications in Sport and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>SP M 190</td>
<td>Introduction to Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>SP M 191</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>SP M 271</td>
<td>Human Systemic Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>SP M 271 L</td>
<td>Human Systemic Anatomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>SP M 272</td>
<td>Clinical Practicum I</td>
<td>2</td>
</tr>
<tr>
<td>SP M 273</td>
<td>Clinical Practicum II</td>
<td>3</td>
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<tr>
<td>SP M 290</td>
<td>General Medical Conditions</td>
<td>3</td>
</tr>
<tr>
<td>SP M 305</td>
<td>Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>SP M 308</td>
<td>Exercise Physiology</td>
<td>3</td>
</tr>
<tr>
<td>SP M 309</td>
<td>Anatomical Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>SP M 310</td>
<td>Sports Injuries I</td>
<td>3</td>
</tr>
<tr>
<td>SP M 371</td>
<td>Human Regional Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>SP M 372</td>
<td>Clinical Practicum III</td>
<td>4</td>
</tr>
<tr>
<td>SP M 373</td>
<td>Clinical Practicum IV</td>
<td>4</td>
</tr>
</tbody>
</table>
SP M 375, Therapeutic Exercise .......................................................... 3
SP M 410, Sports Injuries II ................................................................. 3
SP M 411, Pharmacology ................................................................. 4
SP M 415, Therapeutic Modalities ....................................................... 4
SP M 422, Clinical Practicum V ........................................................... 4
SP M 423, Clinical Practicum VI .......................................................... 4
SP M 424, Clinical Practicum VII ....................................................... 4
SP M 425, Management Strategies in Athletic Training ................... 2
SP M 460, Principles of Strength & Conditioning ............................... 3

ATEP Required Elective Choices (3-4 credits)
PE P 208, Fitness for Health and Sport ........................................ 3
PE P 342, Motor Learning ................................................................. 3
PE P 456, Adapted Physical Activity for Persons with Chronic Diseases/Disabilities .................................................. 3
SP M 330, Exercise Prescription ......................................................... 3
SP M 451, Advanced Exercise Physiology ........................................ 3
SP M 460L, Principles of Strength and Conditioning Lab .................. 1
SP M 499, Problems (requires permission of ATEP director) .......... 1-3

ATEP requirements that meet General Education Core Requirements (45 credits)
Area I – English and Communication Arts: 10 credits required
Area II – Mathematics: 6 credits required: MATH 121G or 190
Area III – Laboratory Sciences: 8 credits required: BIOL 211+L (4) AND CHEM 111G+L (4)
Area IV – Social/Behavioral Sciences: 9 credits required: PSY 201G (3)
Area V – Humanities and Fine Arts: 6 credits required
VWW – 6 credits required
Students interested in majoring in Athletic Training Education are encouraged to meet with the ATEP Director prior to enrolling in SP M 272. Please visit the NMSU ATEP web page for more information regarding this major.

DEGREE: Bachelor of Science in Kinesiology

The Bachelor of Science in Kinesiology degree program comprises a core of coursework plus additional coursework in one of the following emphasis areas: business minor, exercise science, gerontology minor, performance psychology (psychology minor), or sports marketing minor. These five different tracks provide students diverse fitness and wellness career options within the public, private, and/or corporate sectors. Alternately, students may wish to pursue graduate studies in a variety of areas such as business, exercise and sport sciences (e.g. exercise physiology, biomechanics), or medically related fields (e.g. medicine, physical and occupational therapy, cardiopulmonary rehabilitation, etc.).

For specific general education course requirements it is essential that the department or advisement center be consulted. Information about Kinesiology and potential employment opportunities may be obtained at the Department Of Human Performance, Dance And Recreation in the Activity Center 204, phone 646-2215.

Note: Students are required to complete 128 total semester hours (130 performance psychology track) Kinesiology degree. Additionally, students completing requirements for this degree will be ultimately responsible to ensure that they have completed 48 upper division credits (300 and 400 level courses).

Note: Prior to graduation students are required to complete a comprehensive exit examination.

Kinesiology Core (48 credits)
HNFS 251, Human Nutrition ............................................................ 3
PE P 185, Introductions and Foundations ................................... 3
PE P 208, Fitness for Health and Sport ........................................ 3
PE P 304, The Psychology of Sport and Exercise .......................... 3
PE P 342, Motor Learning ................................................................. 3
PE P 411, Statistical Application in Sport and Exercise Science or E ST 311G Statistical Applications .................................................. 3
PE P 456, Adapted Physical Activity Persons Chronic Dse/Dsblts .................. 3
SP M 250, Sport Safety ................................................................. 2
SP M 271, Human Systemic Anatomy ........................................... 3
SP M 271L, Human Systemic Anatomy Lab .................................. 1
SP M 305, Biomechanics ................................................................. 3
SP M 308, Exercise Physiology ......................................................... 3
SP M 309, Anatomical Kinesiology .................................................. 3
SP M 445, Internship ................................................................. 12

Additional coursework for individual kinesiology tracks are listed below. Each track requires 15 electives (Gerontology 12 electives) which are outlined on individual degree plans (see advisor for details).

1. Business Track – Minor in Business Administration (18 credit hours)
Select 9 hours from only one of the following prefixes
ACCT, ECON, FIN, IB, MGT, or MKTG
Select 9 hours from any of the following prefixes
ACCT, BA, BCIS, BLAW, BUSA, ECON, FIN, ITB, IB, MGT, or MKTG
Note: Official minor documentation must be completed with the College of Business Administration and Economics.

2. Exercise Science Track (18 credit hours)
BIOL 254, Human Physiology or BIOL 354, Physiology of Humans .... 3
BIOL 354 L, Physiology of Humans Laboratory .......................... 1
SP M 330, Exercise Prescription ......................................................... 3
SP M 371, Human Regional Anatomy .......................................... 4
SP M 451, Advanced Exercise Physiology ..................................... 3
SP M 460, Principles of Strength and Conditioning ......................... 3
SP M 460 L, Principles of Strength and Conditioning Lab ............ 1

3. Gerontology Track – Minor in Gerontology (21 credit hours)
GERO 415/MPH 515, Introduction to Gerontology ......................... 3
GERO 496/MPH 556, Biological Aspects of Aging .......................... 3
GERO 493/MPH 593, Adulthood and Aging ..................................... 3
GERO 494/MPH 594, Aging in a Multicultural Society .................. 3
Select two (6 credit hours) from the following courses:
Additional Department Requirement

PE P 341, Motor Development .........................................................3

*Prerequisites required.

Note: Official minor documentation must be completed with the College of Health and Social Services.

4. Performance Psychology-Minor in Psychology (19 credit hours)

PSY 310, Experimental Methods .........................................................3
PSY 317, Social Psychology .................................................................3
PSY 320, Learning ....... .................................................................3
PSY 321, Psychology of Personality ..................................................3
PSY 340, Cognitive Psychology .........................................................3
PSY 345, Human Factors Psychology ................................................3

Note: Official minor documentation must be completed with the Department of Psychology.

5. Sports Marketing- Minor in Sports Marketing (18 credit hours)

BLAW 313, Sports and the Law .........................................................3
MKTG 454, Sports Marketing ...........................................................3
MKTG 481, Sport Marketing Management ..........................................3

An additional nine credit hours must be Marketing courses taken with the College of Business at the 300 level or above. Economics 406: Economics of Sports, may be taken with the pre-approval of the Economics Department Head.

Note: Official minor documentation must be completed with the Department of Business, Department of Marketing.

DEGREE: Bachelor of Arts in Dance

The Dance program provides a broad coverage of the field that includes the development of basic technical, performance, and teaching skills. Students can choose between two tracks: performance track and dance education track.

(For specific general education course requirements please consult with the coordinator of the dance program).

Performance Track

The performance track is specifically designed to train dancers for stage careers. The primary focus for dance students on this track will be to increase their athletic and artistic skills through technique, choreography, improvisation, and production classes. Dance students on this track will be required to be in one of the NMSU dance companies, participating in performances on and off campus. The senior culminating experience will be to produce a senior concert.

Dance Technique (47 credit hours in 4 dance styles, 24 upper division credits

with a specialization/focus of 2 dance styles).

DANC 110, Classical Spanish I, 2x ..............................................1
DANC 210, Classical Spanish II, 2x ..............................................2
DANC 120, Ballet Folklorico I, 2x .................................................1
DANC 220, Ballet Folklorico II, 2x ...............................................1
DANC 122, Latin Social Dance I, 2x ..........................................1
DANC 222, Latin Social Dance II, 2x ........................................1
DANC 123, Ballet Technique I, 2x ..............................................1
DANC 223, Ballet Technique II, 2x .............................................2
DANC 323, Ballet Technique III, 4x .........................................3
DANC 423, Ballet Technique IV, 4x .........................................3
DANC 124, Jazz Technique I, 2x ..............................................1
DANC 224, Jazz Technique II, 2x ..............................................2
DANC 324, Jazz Technique III, 4x ............................................3
DANC 424, Jazz Technique IV, 4x ............................................3
DANC 125, Ballroom Dance I, 2x .............................................1
DANC 225, Ballroom Dance II, 2x ............................................2
DANC 126, Modern Dance Tech I ..............................................1
DANC 226, Modern Dance Tech II, 2x .....................................2
DANC 326, Modern Dance Tech III, 4x ....................................3
DANC 426, Modern Dance Tech IV, 4x ....................................3
DANC 127, Tap I, 2x ..................................................................1
DANC 227, Tap II, 2x .................................................................1
DANC 128, Social Dance I ..........................................................1
DANC 129, Flamenco I, 2x .........................................................1
DANC 229, Flamenco II, 2x .......................................................2
DANC 329, Flamenco III, 4x .......................................................3

Performance and Production, 18 credit hours, 9 upper division credits

*DANC 203, Performance & Production I, 4x ................................1
*DANC 303, Performance & Production II, 4x ............................1
*DANC 204, DanceSport I, 4x .....................................................1
*DANC 304, DanceSport II, 4x ....................................................1
*DANC 205, Dance Ensemble I, 4x ...........................................1
*DANC 305, Dance Ensemble II, 4x ...........................................1
*DANC 280, Improvisation I ........................................................1
*DANC 380, Improvisation II .......................................................1
*DANC 289, Principles of Choreography I .................................2
*DANC 389, Principles of Choreography II .................................2
*DANC 465, Senior Culminating Experience (2 semesters) ........1-6
DANC 450, Special Topics .............................................................1-3
DANC 459, Problems ................................................................1-3

Dance Education, 7 credit hours, 6 upper division credits

*DANC 300, Dance Pedagogy I or .................................................3
*DANC 400, Dance Pedagogy II ...................................................3
*DANC 213, Dance Practicum I or ..............................................1
*DANC 313, Dance Practicum II ..................................................1
*DANC 451, World Dance ............................................................3

Dance Science, 3 credit hours

*SP M 305, Biomechanics (SP M 271 is prerequisite) .................3

Dance Electives, 4 credit hours, (from the Dance Curriculum)

Dance Education Track

The dance education track is specifically designed to train dancers for arts-in-education and studio careers. While requiring technical proficiency, this track has an emphasis on pedagogy and education with a required senior culminating experience of an off campus teaching project.

Dance Technique: 34 credit hours, 13 upper division, covering at least 3 dance styles

DANC 110, Classical Spanish I, 2x ..............................................1
DANC 210, Classical Spanish II, 2x ..........................................2
DANC 120, Ballet Folklorico I, 2x ..............................................1
DANC 220, Ballet Folklorico II, 2x .............................................1
DANC 122, Latin Social Dance I, 2x ..........................................1
DANC 222, Latin Social Dance II, 2x ........................................1
DANC 123, Ballet Technique I, 2x ..............................................1
DANC 223, Ballet Technique II, 2x .............................................2
DANC 323, Ballet Technique III, 4x .........................................3
DANC 423, Ballet Technique IV, 4x .........................................3
DANC 124, Jazz Technique I, 2x ..............................................1
DANC 224, Jazz Technique II, 2x ..............................................2
DANC 324, Jazz Technique III, 4x ............................................3
DANC 424, Jazz Technique IV, 4x ............................................3
DANC 125, Ballroom Dance I, 2x .............................................1
DANC 225, Ballroom Dance II, 2x ............................................2
DANC 126, Modern Dance Tech I ..............................................1
DANC 226, Modern Dance Tech II, 2x .....................................2
DANC 326, Modern Dance Tech III, 4x ....................................3
DANC 426, Modern Dance Tech IV, 4x ....................................3
DANC 127, Tap I, 2x ..................................................................1
DANC 227, Tap II, 2x .................................................................1
DANC 128, Social Dance I ..........................................................1
DANC 129, Flamenco I, 2x .........................................................1
DANC 229, Flamenco II, 2x .......................................................2
DANC 329, Flamenco III, 4x .......................................................3
Performance and Production, 10 credit hours, 3 upper division credits

*DANC 203, Performance & Production I, 4x .............................................. 1
*DANC 303, Performance & Production II, 4x .............................................. 1
*DANC 204, DanceSport I, 4x .................................................................... 1
*DANC 304, DanceSport II, 4x ................................................................. 1
*DANC 205, Dance Ensemble I, 4x ............................................................. 1
*DANC 305, Dance Ensemble II, 4x ............................................................. 1
*DANC 290, Improvisation I ...................................................................... 1
*DANC 390, Improvisation II .................................................................... 1
*DANC 289, Principles of Choreography I .................................................. 2
*DANC 389, Principles of Choreography II .................................................. 2
*DANC 465, Senior Culminating Experience (2 semesters) ....................... 1-6
DANC 450, Special Topics .......................................................................... 1-3

Dance Education, 24 credit hours, 23 upper division credits

*DANC 300, Dance Pedagogy I or ................................................................ 3
*DANC 400, Dance Pedagogy II ................................................................. 3
*DANC 213, Dance Practicum I or ............................................................... 1
*DANC 313, Dance Practicum II .................................................................. 1
*DANC 451, World Dance .......................................................................... 3

Dance Management, 3 credit hours

*DANC 275, Dance Studio Management ..................................................... 3

Dance Science, 3 credit hours

*SP M 305, Biomechanics (SP M 271 is prerequisite) .............................. 3

Dance/Gen. Ed. Electives, 4 credit hours

MINOR: Dance

For more information, visit the Undergraduate Advisement Center or the Department of Human Performance Dance and Recreation for Dance Minor requirements.

MINOR: Exercise Science (18 - 19 credits)

PE P 208, Fitness for Health and Sport ....................................................... 3
SP M 305, Biomechanics .......................................................................... 3
SP M 308, Exercise Physiology ................................................................. 3
SP M 309, Anatomical Kinesiology .......................................................... 3
SP M 451, Advanced Exercise Physiology .............................................. 3
And either
SP M 330, Exercise Prescription .............................................................. 3
SP M 480 + L, Principles of Strength and Conditioning/Lab .................. 4

Note: Official minor documentation must be completed with the Department of Human Performance Dance and Recreation.

SPECIAL EDUCATION/COMMUNICATION DISORDERS

Professor Robert Rhodes, department head

Professors Gallegos; Associate Professors Brown, Chinn, Derer, Lopez, Stout; Assistant Professors Cronin, Duseau, Fitzpatrick, Poel, Rhein, Salas, Valdez. J. Wood College Assistant Professor Mason College Associate Professor Ivey

(575) 646-2402

DEGREE: Bachelor of Science in Education

MAJOR: Special Education

Communication Disorders

The Department of Special Education/Communication Disorders offers two undergraduate programs that prepare professionals to work with exceptional populations in school, community, hospital, and residential settings. The Special Education program prepares students to provide appropriate educational services to individuals with disabilities. The Communication Disorders program provides training for students interested in speech-language pathology or audiology.

MAJOR: Special Education

The undergraduate program is designed to prepare students for licensure in special education. Students receive training in a broad based curriculum appropriate for teaching and other career options related to special education and developmental disabilities. In addition to special education coursework, students complete an academic teaching field and may elect to pursue coursework in a variety of focal areas including early childhood special education, developmental disabilities, or counseling and educational psychology. Dual licensure in special and regular education (elementary or secondary) may be obtained.

General education requirements are similar for all degree programs in the College of Education. Students should meet with an advisor to plan appropriate general education courses for a special education major. Students may get a dual license in special education and elementary education or in special education and secondary education.

Professional Education Courses (34 credits)

SPED 350, Survey of Programs for Exceptional Learners ......................... 3
SPED 360, Curriculum, Methods, and Materials for Special Education .... 3
SPED 459, Approaches to Classroom Management for Exceptional Learners .......................................................... 3
SPED 463, Assessment of Exceptional Learners ..................................... 3
SPED 470, Life Span Development and Transitions in Special Education ... 3
SPED 481, Practicum in Special Education ............................................. 3

Two of the following courses: SPED 458, Intellectual Disabilities: An Introduction; SPED 466, The Learning Disabled Student; SPED 467, Behavior Disorders 6

SPED 482, Student Teaching ................................................................. 12

All special education students will choose a developmental psychology course (C EP 110G) and EMD 101.

OPTIONS:

All special education students must choose one of the following options:

Dual License in Elementary Education (50 credits)

Complete the Language Arts Teaching Field or Requirements for Elementary Education majors .......................................................................................................................... 24
Complete the Elementary Education Major Requirements ........................................... 24
C D 365, Language Acquisition for Non-Communication Disorders ........ 3
EDUC 489, Elementary School Practicum ............................................... 3
RDG 371/SPED 409, Instruction for Special Reading Needs .................. 3

Dual License in Secondary Education (48 credits)

Complete first teaching field requirements in one area .......... 36 (minimum.)
C D 365, Language Acquisition for Non-Communication Disorders ........ 3
EDUC 460, 461, 462, 463, 464, 465, 466, or 467, Secondary Methods (take course appropriate for teaching field) ........................................... 3
EDUC 489, Secondary School Practicum ............................................. 3
RDG 371/SPED 409, Instruction for Special Reading Needs .............. 3
Special Education and Focal Areas (Early Childhood-Special Education, Developmental Disabilities, or Counseling and Educational Psychology) (48 credits)

For detailed coursework, see the Advisement Center.

Complete a second teaching field 24 (min.)
C D 365, Language Acquisition for Non-Communication Disorders ........ 3
RDG 371/SPED 409, Instruction for Special Reading Needs .............. 3
Additional coursework in one of the ECED-SPEP, DD, or C EP. (See an adviser for details.) ........................................... 24

General Requirements

See “General Requirements” in the “College of Education” section. Students must be admitted to the Teacher Education Program as a condition for enrolling in courses that lead to licensure.
MAJOR: Communication Disorders

The Communication Disorders curriculum provides specialized preparation for students who plan to enter a graduate program to become speech-language pathologists or audiologists. Students supplement their academic study of normal communication, communication disorders, and clinical management with observation and supervised clinical experience in the department’s Speech and Hearing Center. To begin the clinical practicum sequence (CD 321, CD 462,) a student must have a minimum 3.0 GPA.

The undergraduate program provides approximately one-half of the academic requirements needed for certification by the American Speech-Language-Hearing Association and licensure by the New Mexico State Department of Education. Certification and licensure at state and national levels requires completion of the master’s degree. Details regarding certification are available from the Department of Special Education/Communication Disorders.

Professional employment opportunities for speech-language pathologists and audiologists are numerous in school systems, community clinics, medical centers, hospitals, private practice, residential programs, and schools for individuals with disabilities.

Program Requirements

Required coursework (132 credits; minimum 48 upper-division credits):

General Requirements

See “General Requirements” in the “College of Education” section at the beginning of this chapter. A list of specific general education courses is available at the Education Advisement Center in O’Donnell Hall, Room 101.

Communication Disorders (63 credits)

C D 221, Introduction to Communication Disorders* ..................................................3
C D 321, Clinical Methods ..........................................................................................3
C D 360, Language Acquisition* ................................................................................3
C D 370, Anatomy and Physiology of the Speech Mechanism ..................................3
C D 374, American Sign Language I ...........................................................................3
C D 375, American Sign Language II .........................................................................3
C D 380, Introduction to Speech Science ....................................................................3
C D 390, Phonetics .........................................................................................................3
C D 393, Professional Reasoning and Scientific Thinking...........................................3
C D 452, Speech Disorders ......................................................................................3
C D 453, Language Disorders ..................................................................................3
C D 456, Neural Bases of Communication Disorders .................................................3
C D 462, Clinical Procedures ....................................................................................3
C D 463, Audiology ......................................................................................................3
C D 464, Aural Rehabilitation* ..................................................................................3
C EP 110, Human Growth and Development ............................................................3
C EP 451V, Introduction to Counseling ......................................................................3
SPED 350, Exceptional Learners ..............................................................................3
Electives (Selected from the list of recommendations from the CD program) ..............9

*Courses recommended for students who plan to enter a graduate program in education of the deaf/hard of hearing.

Graduate Program (52 credits)

Students entering the graduate program with an undergraduate major in Communication Disorders can expect to complete the program in two years and be awarded a Masters of Arts in Communication Disorders and specialization in Speech-Language Pathology. Graduate programs for students without a communication disorders background are generally one year longer. Enrollment in graduate courses in Communication Disorders is limited to persons who have been accepted into the graduate program in communication disorders. To complete a course of study, each student is expected to meet the program’s academic and clinical competency criteria as well as the recommendation of state and national certifying bodies for educational licensure and clinical certification.

The master’s degree program in Speech-Language Pathology at New Mexico State University is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association. Admission requirements and procedures, which are available upon request, are listed in the Graduate Catalog.
Bachelor of Science: Aerospace Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Engineering Physics, Engineering Technology, Industrial Engineering, Mechanical Engineering, Surveying Engineering

Bachelor of Information and Communication Technology

The College of Engineering comprises six departments: Chemical Engineering; Civil Engineering; Electrical and Computer Engineering; Engineering Technology and Surveying Engineering; Industrial Engineering; Mechanical and Aerospace Engineering.

Mission of the College of Engineering
The College of Engineering will uphold the land grant mission of NMSU through nationally recognized programs in education, research, and professional & public service.

With respect to our undergraduate programs, we will accomplish our mission by focusing on the following goals:
1. To be nationally and internationally recognized for academic & research programs in Engineering & Engineering Technology.
2. Provide world-class engineers & engineering technologists for governmental, industrial, and academic constituencies of the College of Engineering.
3. To be the "University of Choice" for undergraduate engineering & engineering technology education in the region.
4. To serve as an engine for economic development in New Mexico through the advancement of engineering and technology.

Furthermore, graduates receiving baccalaureate degrees will demonstrate:
- an ability to apply knowledge of mathematics, science, and engineering;
- an ability to design and conduct experiments, as well as to analyze and interpret data;
- an ability to design a system, component, or process to meet desired needs;
- an ability to function on multi-disciplinary teams;
- an ability to identify, formulate, and solve engineering problems;
- an understanding of professional and ethical responsibility;
- an ability to communicate effectively;
- the broad education necessary to understand the impact of engineering solutions in a global and societal context;
- a recognition of the need for, and an ability to engage in life-long learning;
- a knowledge of contemporary issues; and
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Graduate Degrees
Graduate study is available in the College of Engineering. For a listing of advanced degrees, see “Graduate Programs” in the General Information chapter of this catalog, and for additional details, see the Graduate Catalog.

Student Advisence
Students coming into the College of Engineering are encouraged to declare a major and be advised by that department. At their discretion, students may change majors at any time in the course of their study by notifying the associate dean for academics. However, a change in major may result in a delay in graduation.

Students uncertain about choosing a major may list themselves as undeclared in the College of Engineering and be advised by the associate dean for academics. Undeclared students will be asked to choose a major after two semesters in the college. Students must have a declared major in order to graduate.

At the discretion of the associate dean for academics, students who do not demonstrate satisfactory progress may be required to leave the College of Engineering.

General Education
With the exception of math and science, the College accepts all coursework approved for inclusion in the New Mexico General Education Common Core. Calculus I, General Chemistry I, and Engineering Physics I are required to satisfy areas II and III of the common core.

S/U Coursework
The College requires most degree requirements to be taken with traditional grading. Students may take selected humanities and social science courses under the S/U option. Other exceptions are specifically noted in the degree requirements section of this Catalog.

Math Placement
Entering freshmen are placed into an appropriate math course based upon the results of the Math Placement Exam administered regularly by the NMSU mathematics department. Students with Advanced Placement or transfer credit for mathematics will be placed accordingly. Math placement may be altered at the discretion of the associate dean.

Minors
Minors are available from most departments within the College of Engineering. Minors are outlined in the individual program descriptions later in this catalog.

Accreditation
ABET (formerly the Accreditation Board for Engineering and Technology), established in 1915 and composed of representatives from technical societies, assures professional standards by periodic evaluations of the programs in the College of Engineering. (ABET may be contacted at 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 or by phone at (410) 347-7700.)

Continuous accreditation by the Engineering Accreditation Commission (EAC) of ABET has been in force since 1938 for civil, electrical, and mechanical engineering, 1967 for chemical engineering, 1971 for industrial engineering, 2001 for surveying engineering, and 2005 for engineering physics.

The electronics and computer, civil, and mechanical engineering technology baccalaureate degree programs have been accredited by the Technology Accreditation Commission (TAC) of ABET since 1984.

The college is a member of the American Society for Engineering Education (ASEE).
MINOR: Environmental Management (18 credits)

The environmental management minor is an interdisciplinary program administered by WERC: A Consortium for Environmental Education and Technology Development, located in Foreman Hall.

Requirements: (all courses must be completed with a grade of C or higher. No courses may be taken S/U.)
1. One of the following (3 credits): WERC 300, Introduction to Pollution Prevention and Its Applications; WERC 350, Introduction to Energy, Environmental and Risk Assessment; WERC 381, Renewable Energy Technologies; WERC 382, Solar Energy Technologies; WERC 384, Water and Water Energy Technologies; WERC 386, Sustainable Building Technology; WERC 425, Chemical Hygiene Awareness for New Mexico Schools;
   WERC 450, Special Topics
2. Any two of the following (3 credits): WERC 330, Environmental Management Seminar I (or equivalent); WERC 430, Environmental Management Seminar II (or equivalent); WERC/ES/ET 312, Emergency Response to Hazardous Material Incidents
3. Any four approved environmental management courses (12 credits)

Also see www.werc.net/education

Cooperative Education

After two semesters of satisfactory academic work (2.5 GPA), an engineering student may go on a work phase with one of the many companies or governmental agencies with which the university has co-op agreements. The experience obtained through alternating periods of academic and fieldwork greatly contributes to the preparation of a student for professional life. Work phases are considered a vital part of the educational process, and students are counseled in the selection of co-op positions that will lead to progressive learning experiences. Earnings while on work phase provide a source of financial assistance to meet educational expenses.

A significant number of undergraduate engineering students are in the cooperative education program. Students may, with the approval of their department head, earn credit while participating in a co-op work phase. Co-op credits do not normally count toward the degree requirements but do show on the transcript.

General Requirements

Students in the College of Engineering are expected to:
1) Earn a minimum cumulative grade-point average of 2.0 before enrolling in engineering courses number 300 or above
2) Have completed (with a grade of C, or better) the prerequisites for each engineering, technology, math, and science course taken.
3) Earn at least a grade of C in all engineering, technology, math and science courses numbered below 300 which are specifically required for the degree.
4) Repeat all courses which have not been satisfactorily completed, each semester they are offered.

Requirements for Graduation

The minimum requirements for undergraduate degrees are:
1) Satisfaction of the university requirements as previously outlined in the “Regulations” section of this catalog.
2) Satisfaction of the college requirements as outlined under “General Requirements”, above.
3) Satisfaction of the departmental rules and course requirements as outlined in the program descriptions later in this catalog.

NOTE: In order to maintain quality, remain current, and satisfy changes in accreditation criteria, requirements which have been published may be changed. Any such changes will be announced and will not be retroactive. Always consult an academic advisor before registering for classes.

CHEMICAL ENGINEERING

Professor Martha C. Mitchell*, department head
Professor Richard L. Long**, associate department head

Professors Bhada (emeritus), Long##, Johnson, Ghasseml, Mitchell, Munson-McGee, Patton (emeritus), Rockstraw###; Associate Professors Andersen, Deng;

College Professor Del Valle

(575) 646-1214

*Registered Professional Engineer (NM)
## Registered Professional Engineer (State other than NM)

DEGREE: Bachelor of Science in Chemical Engineering

Chemical engineers combine their knowledge of science, mathematics, and physics with their expertise in engineering analysis to solve industry-level problems in both the private and public sectors. An undergraduate degree leads to an exciting career in fields such as computer chip manufacturing; environmental restoration and pollution prevention; biotechnology and bioengineering; pharmaceutical manufacturing; food production; transportation (including automotive and aerospace); advanced materials; petrochemical refining; chemical synthesis and production; power and energy production (including the nuclear industry); law, medicine or advanced studies in the graduate level.

In support of the mission of New Mexico State University, the Department of Chemical Engineering strives to prepare Chemical Engineering Bachelor of Science graduates to successfully and safely practice the chemical engineering profession, to engage in life-long personal and professional development, and to contribute to the betterment of their community and society.

To accomplish this mission, the department supports the objectives of the college and the university and expands the objectives to satisfy the needs of the Chemical Engineering constituent groups. The department strives to achieve the objectives of providing all graduating B.S. students with:
1. A solid foundation in the fundamentals of chemical engineering science, design, and practice;
2. A sound base in chemistry, mathematics, and physics;
3. An opportunity to explore advanced disciplines pertinent to career choice;
4. An opportunity to participate on multidisciplinary teams;
5. The opportunity and training to develop the written and oral communication skills required of a practicing engineer;
6. The opportunity to develop and comprehend professional and ethical behavior, to develop an understanding of the humanities and social sciences, and to develop the skills to engage in lifelong learning.

These objectives are consistent with those of the College of Engineering and New Mexico State University in their commitment to developing student excellence in an intellectually stimulating environment, cultural diversity, and broad education programs, while encouraging individual expression, professional behavior, civic responsibility, leadership, and an appreciation for continuing education.

The bachelor’s program in Chemical Engineering has been continuously accredited by the Engineering Accreditation Commission of ABET, Inc. since 1967.

Requirements (Total credits 130)

In addition to satisfying the requirements of the university and the College of Engineering, all majors must pass departmental courses with a grade of C or better. Students must take the Fundamentals of Engineering Exam prior to graduation.

State General Education Common Core (37 credits)

Area I: Communications (10 credits)
ENGL 111G, Rhetoric and Composition

Area II: Mathematics (4 credits)
MATH 191G/191GL, Calculus I and Lab

Area III: Natural Science (8 credits)
CHEM 115, Principles of Chemistry I
CHEM 116, Principles of Chemistry II
Area IV: Social & Behavioral Sciences (6-9 credits)*
Economics, Political Science, Psychology, Sociology, and Anthropology electives ................................................................. 6-9

Area V: Humanities & Fine Arts (6-9 credits)*
History, Philosophy, Literature, Art, Music, Dance, Theater, Foreign Language, and Religion electives .................................................. 6-9*

* Students must complete 15 total credits from Area IV and V, with at least six credits from each area.

Institution Specific Graduation Requirements (6 credits)
Viewing a Wider World Elective ................................................................. 6

Program Specific Graduation Requirements (90 credits)

Mathematics (10 credits)
MATH 192G/192GL, Calculus II and Lab .................................................. 4
MATH 291G, Calculus III ........................................................................... 3
MATH 392, Differential Equations ............................................................ 3

Natural Science (17 credits)
PHYS 215G, Engineering Physics I .......................................................... 3
PHYS 216G, Engineering Physics II .......................................................... 3
CHEM 313, Organic Chemistry I ............................................................... 3
CHEM 314, Organic Chemistry II .............................................................. 3
CHEM 315, Organic Chemistry Laboratory ................................................ 2
CHEM 433, 434, or 456 Physical Chemistry Elective .................................. 3

Technical Electives1 (12 credits)

Chemical Engineering (51 credits)
CH E 100, Basics of Chemical Engineering ........................................... 1
CH E 111, Introduction to Computers Calculations in Chemical Engineering ................................................................. 3
CH E 201, Material and Energy Balances ............................................... 4
CH E 301, Chemical Engineering Thermodynamics I .............................. 3
CH E 302, Chemical Engineering Thermodynamics II ............................ 3
CH E 305, Transport Operations I: Fluid Flow ...................................... 3
CH E 311, Engineering Data Analysis .................................................... 3
CH E 318L, Process Instrumentation Lab ................................................ 2
CH E 361, Engineering Materials ............................................................ 3
CH E 407L, Transport Operations Lab .................................................... 2
CH E 412, Process Dynamics and Control ............................................. 3
CH E 422L, Unit Operations and Process Control Laboratory ............... 2
CH E 441, Chemical Kinetics and Reaction Engineering ......................... 3
CH E 451, Engineering Economy ........................................................... 3
CH E 452, Process Design, Analysis, and Simulation ............................... 4
CH E 455, Plant Design .......................................................................... 2
CH E 490, Senior Seminar ..................................................................... 1

1 Check with your advisor for a list of acceptable elective courses. Three credits must have a CH E prefix. Emphasis areas include: advanced studies; advanced materials; bioengineering; environmental engineering; Fundamentals of Engineering preparation; nuclear energy; and premedical.

MINOR: Nuclear Energy

The nuclear energy minor at New Mexico State University is part of a nuclear education program that addresses the growing demand for engineers and scientists with background in the nuclear industry. A student must pass 18 credits from a list available in the Chemical Engineering departmental office with a grade C or better. The courses are upper division courses. The minor is a combination of required and elective courses. No courses may be taken S/U. All prerequisites for the classes must be met or consent of the instructor obtained before enrolling in class.

CIVIL ENGINEERING

Professor Kenneth R. White*, department head
Professor J. Phillip King*, associate department head
Professors Hanson**, Idriss*, Jacquez*, Khandan**, McCarthy**, Samani**, White*, Associate Professors Jauregui*, King*, Newton*; Assistant Professors Bandini, Bawazir, Zhang; College Professor Madrid*; Adjunct Professor Hernandez**

(575) 646-3801
*Registered Professional Engineer (NM)
** Registered Professional Engineer (State other than NM)
## Registered Land Surveyor (State other than NM)

DEGREE: Bachelor of Science in Civil Engineering

OPTIONS: Structures
Environmetal
Geotechnical
Water Resources

MINOR: Agricultural Engineering

DEGREE: Bachelor of Science in Civil Engineering

The curricula in civil engineering is designed to provide a broad background and is so arranged that students may specialize in one or more of the options listed above or work in one or more areas of civil engineering in the senior year. Students may elect to obtain more than one option in civil engineering.

Requirements

In addition to the university requirements for graduation, a student must have a 2.0 grade-point average in all departmental courses and pass the Fundamentals of Engineering Examination prior to graduation.

The mission of the Civil Engineering Department is to offer a high quality and accredited degree that prepares our graduates for professional licensure leading to successful civil engineering careers in industry and government or for success at the graduate level. Toward this end, the Civil Engineering Department will recruit and maintain a diverse, highly skilled faculty that will consistently produce high-end teaching, research, and professional service.

Civil Engineering Program Educational Objectives

In support of the mission, the Civil Engineering Department adopts the following program educational objectives:

1. Prepare our graduates to achieve professional engineering licensure
2. Prepare our graduates to be future leaders as public employees and private consultants in civil engineering fields.
3. Have 25% of our graduates pursue and complete a graduate level degree.
4. Maintain and further develop a high quality accredited civil engineering program that is competitive with comparable programs in the southwest and throughout the nation.

In addition, the Accreditation Board of Engineering and Technology, in conjunction with the American Society of Civil Engineers, requires that baccalaureate degree graduates in civil engineering will be able to:

1. Demonstrate proficiency in mathematics through differential equations, probability and statistics, calculus based physics and general chemistry;
2. Demonstrate proficiency in a minimum of four recognized major civil engineering areas;
3. Demonstrate the ability to conduct laboratory experiments and to critically analyze and interpret data in more than one of the recognized major civil engineering areas;
4. Demonstrate the ability to perform civil engineering design by means of design experience integrated throughout the professional component of the curriculum; and
5. Demonstrate an understanding of professional practice issues such as procurement of work; bidding versus quality-based selection processes; how the design professional and the construction professions interact to construct a project; the importance of professional...
licensure and continuing education; and/or other professional practice areas.

The ABET Criteria, in conjunction with the American Society of Civil Engineers also requires that civil engineering curriculums include in-depth instruction allowing students to accomplish the integration of systems using appropriate analytical, computational and experimental practices. They also require that faculty teaching in civil engineering departments show evidence of understanding professional practice and maintain currency in their respective professional areas. Program faculty must have responsibility and sufficient authority to define, revise, implement, and achieve program objectives.

**REQUIREMENTS (136 credits)**

The General Education Common Core requires 37 credits in 5 different categories, as outlined earlier in the catalog.

**Area I: Communications (10 credits)**

ENGL 111G, Rhetoric and Composition ......................................................... 4

ENGL 218G, Technical and Scientific ................................................................. 3

COMM 265G, Principles of Human Communication .............................................. 3

Other courses listed will be accepted but these are recommended.

**Area II: Mathematics (4 credits)**

MATH 191G, Calculus and Analytical Geometry .................................................. 3

**Area III: Science with laboratory (Select 8 credits)**

CHEM 111G, General Chemistry ........................................................................... 4

GEOL 111, Survey of Geology .............................................................................. 4

**Area IV: Social/Behavioral Sciences (Select 6-9 credits)**

Students may select any combination shown.

**Area V: Humanities and Fine Arts (Select 6-9 credits)**

Students may select any combination shown.

**Freshman Year (33 credits)**

C E 151, Introduction to Civil Engineering ............................................................ 3

General Education Common Core ......................................................................... 16

MATH 192G/192GL, Calculus and Analytical Geometry II and Lab ......................... 4

DRFT 109, Computer Drafting .............................................................................. 3

PHYS 215G, Engineering Physics I ......................................................................... 3

PHYS 215GL, Engineering Physics I Laboratory ..................................................... 1

SUR 222, Plane Surveying .................................................................................... 3

**Sophomore Year (34 credits)**

C E 231, Introduction to Fluid Mechanics ............................................................ 3

C E 233, Mechanics-Statics .................................................................................. 3

C E 256, Environmental Science .......................................................................... 3

C E 256L, Environmental Science Laboratory ..................................................... 1

C E 301, Mechanics of Materials ........................................................................... 3

C E 331, Hydraulic Engineering ............................................................................ 3

General Education Common Core ......................................................................... 12

MATH 291G, Calculus and Analytical Geometry III ............................................... 3

M E 234, Mechanics-Dynamics ............................................................................ 3

**Junior Year (34 credits)**

C E 311, Properties of Materials ........................................................................... 3

C E 315, Determine Structures ............................................................................. 3

C E 356, Fundamentals of Environmental Engineering ......................................... 3

C E 357, Soil Mechanics ....................................................................................... 3

C E 365, Intermediate Structural Mechanics ....................................................... 3

General Education Common Core ......................................................................... 6

E E 201, Networks I, or M E 240, Thermodynamics ............................................... 3

MATH 392, Differential Equations ........................................................................ 3

STAT 371, Statistics for Engineers and Scientists I, or approved upper-division math elective .......................................................... 3

PHYS 216G and PHYS 216GL, Engineering Physics II and Lab, or CHEM 112G, General Chemistry II .......................................................... 4

**Senior Year (35 credits)**

C E 450, Engineering Economy and Law .............................................................. 3

C E 497, Senior Seminar ....................................................................................... 2

Civil engineering options ....................................................................................... 6

Humanities or social science electives (upper-division)* ........................................ 6

General Education Common Core ......................................................................... 3

CE 445, Concrete Design ....................................................................................... 3

CE 382, Hydraulic Design ..................................................................................... 3

CE 457, Foundation Design .................................................................................. 3

CE 471, Highway Design or CE 477, Construction .................................................. 3

CE 469, CE 482, CE 485 or ENVE 456 ................................................................. 3

*Humanities and social science electives must be selected to satisfy the college and university general education requirements.

**Civil Engineering Options**

**Electives for Environmental Option (6 credits):**

ENVE 455, Solid and Hazardous Waste Systems Design ........................................... 3

C E 483, Surface Water Hydrology, A EN 458, Design of Water Wells/Pumping Systems or G EN 452, Geohydrology ....................................................... 3

**Electives for Structural Option (6 credits):**

C E 444, Elements of Steel Design ........................................................................ 3

C E 454, Wood Design, C E 455, Masonry Design, or C E 468, Mechanics of Structural Systems ................................................................. 3

**Electives for Water Resources Option (6 credits):**

C E 483, Surface Water Hydrology ........................................................................ 3

G EN 452, Geohydrology or A EN 458, Design of Water Wells/Pumping Systems ................................................................. 3

**Electives for Geotechnical Option (6 credits):**

G EN 452, Geohydrology or G EN 458, Geomechanics and Rock Engineering or G EN 458, Advanced Engineering Geology .......................................... 3

**MINOR: Agricultural Engineering**

Minimum of 18 credits, designated as follows:

**College of Agriculture and Home Economics**

Soil Science Requirements, 3 credits from: SOIL 472, Soil Morphology and Classification; SOIL 476, Soil Microbiology; SOIL 477, Soil Physics; SOIL 479, Environmental Soil Chemistry ................................................................. 3

Plant/Animal Science Requirement, 3 credits from: AGRO/HORT 365, Principles of Crop Production; ANSC 315V, Agricultural Animals of the World ........................................................................ 3

Institutions/Economics Requirement, 3 credits from: AG E 315V, World Agriculture and Food Problems; AG E 329V, Natural Resources Economics; AG E 464, Water Resources Economics ................................................................. 3

**College of Engineering**

Irrigation Requirement, 3 credits from: A EN 478, Irrigation and Drainage Engineering; A EN 498, Special Topics ........................................................................ 3

Engineering Specialty Requirement, 3 credits from: A EN 335, Engineering for Biological Systems; A EN 475, Soil and Water Conservation; A EN 478, Irrigation and Drainage Engineering ................................................................. 3

Design Requirement, 3 credits from: A EN 440, Design Applications; A EN 459, Design of Water Wells/Pumping Systems ....................................................... 3

**ELECTRICAL and COMPUTER ENGINEERING**

The Klipsch School of Electrical and Computer Engineering

Professor Stephen Horan, department head

College Associate Professor Sheila Horan, freshman adviser

Professors DeLeon, Stephen Horan, Johnsson, Ng, Ramirez-Angulo, Ranade, Stochaj, Associate Professors, Borah, Cook, Creusere, Furth, Paz, Prasad, Voelz; Assistant Professors Brahma, Cho, Dawood, Huang, Kiewer; College Associate Professors Sheila Horan, College Assistant Professors Boehmer, Geyer Dean’s Office Castillo, Dean of Engineering; Petersen, Associate Dean of Engineering; Emeritus Professors: Garden, Flachs, Giles, Jordan, Kersting, Lude, man, Merrill, Reinholds, Smolleck*, Steelman*, Taylor (575) 646-3115; eeoffice@nmsu.edu; www.ece.nmsu.edu
DEGREE: Bachelor of Science in Electrical Engineering

The undergraduate program of the Klipsch School is accredited by the Engineering Accreditation Commission of ABET and stresses the development of analytical tools and physical concepts required to prepare students for immediate employment or graduate study. The program is flexible, allowing students to choose coursework in the interest areas of communications, electronics, computer, control systems, digital design, electric energy systems, electromagnetics and microwave engineering, microelectronics, photonics, signal processing, and space systems engineering.

Electrical Engineering Program Education Objectives

The Klipsch School is dedicated to providing a quality, hands-on, educational experience. Upon graduation, students will have the technical, communication, and critical thinking skills necessary to begin a fulfilling career and/or pursue graduate studies in electrical and computer engineering. Baccalaureate graduates of the Klipsch School are:

- able to apply engineering, science, and mathematical skills to meet the technical challenges in electrical engineering
- experienced in the design process: conceptualization, solution, formulation, implementation, and verification
- able to communicate effectively and operate in diverse teams
- aware of their professional and ethical responsibilities as practicing engineers
- prepared for productive employment and/or the pursuit of an advanced degree

DEGREE: Bachelor of Science in Electrical Engineering

Requirements (total credits 129):

State General Education Common Core (37 credits)

Area I: Communications

Written Communications

Written Communications Electives

Oral Communications

Oral Communications Elective

Area II: Mathematics

MATH 191G/191GL, Calculus and Analytic Geometry I and Lab

Area III: Natural Science

CHEM 111G, General Chemistry

PHYS 215G, General Physics

Area IV: Social & Behavioral Sciences*

Economics, Political Science, Psychology, Sociology, and Anthropology

Area V: Humanities & Fine Arts*

History, Philosophy, Literature, Art, Music, and Theater

Institution Specific Graduation Requirements (6 credits)

PHIL 322, Engineering Ethics

Viewing a Wider World Elective

Program Specific Graduation Requirements (86 credits)

Mathematics

MATH 192G/192GL, Calculus and Analytic Geometry II and Lab

MATH 291G, Calculus III

MATH 392, Differential Equations

E E 210, Engineering Analysis I

E E 310, Engineering Analysis II

Natural Science

PHYS 216G, General Physics III

Engineering

E E 161, Computer-Aided Problem Solving

E E 162, Digital Circuit Design

E E 260, Embedded Systems

E E 280, DC and AC Circuits

E E 312, Signals and Systems II

E E 314, Signals and Systems III

E E 351, Electromagnetics II

E E 380, Electronics II

E E 391, Introduction to Electric Power Engineering

E E Electives

Technical elective

Capstone Elective

1 Including laboratory

2 A grade of C or better is required

3 Must be completed with a grade of C or better prior to enrolling in any E E course numbered 300, or above

4 Lists of approved electives are available from the Klipsch School office

THE FRESHMAN YEAR

Students without AP credit for Calculus I are strongly encouraged to be eligible to take MATH 191G before beginning their electrical engineering studies. A typical first year of study for E E students includes the following 34 credits:

CHEM 111G, General Chemistry

E E 161, Computer-Aided Problem Solving

E E 162, Digital Circuit Design

MATH 191G, Calculus I

MATH 192G, Calculus II

PHYS 215G, with Lab

State General Education Common Core Electives

Interest Areas

Through the proper choice of math, science, and engineering electives in the junior and senior years, it is possible for the student to specialize in an area of interest. These areas include:

1. Communications, Telemetry, and Signal Processing

   Students study space communication systems, wireless systems, telemetry, or signal processing. Scholarships and employment opportunities are available in the Manuel Lujan Center for Telecommunications.

2. Electric Energy Systems

   Elective courses in power systems acquaint the student with the design, analysis, and operation of power systems. Courses are offered in high voltage transmission lines, distribution systems, rotating machines, and digital computer analysis of the steady state operation and short circuit conditions of a power system.

3. Electromagnetics and Microwave Engineering

   Students study electromagnetic fields, wave propagation, antennas, waveguides, transmission lines, lasers, and optics. Practical experience is available in the high-frequency and antenna laboratories and anechoic chamber.

4. Micro-Electronics

   Students study discrete analog as well as digital and analog VLSI electronics, preparing them for design, analysis, and testing of complex circuits. During the senior year, VLSI students will design a chip to be fabricated.

5. Photonics

   Students may concentrate in the fields of fiber optics, lasers, optical communications, imaging, and optical signal processing.

6. Control Systems

   Work in the systems area provides the student with a background in modeling, analysis, design, simulation, and control of complex systems. These systems may be associated with engineering, ecology, transportation, natural resources, environment, or other areas.

7. Space Systems Engineering

   Elective courses prepare the student for employment opportunities in...
the aerospace industry. Students are introduced to the complexities of a space systems life cycle and the disciplines required to design, integrate, and operate large systems.

8.) Computer Engineering Specialization
The school offers a special program for students interested in computer engineering. Students wishing to become involved in this rapidly growing field will find courses in the Klipsch School, as well as the Computer Science Department which cover the following areas:
- Integrated Circuits and Applications
- Digital Logic and System Design
- Digital Signal Processing
- Computer Architecture
- Data Networks

These courses offer the student an opportunity to obtain an in-depth knowledge of digital systems and practical experience in the design, operation, programming, and applications of digital computers.

RELATED AREAS OF STUDY
Electrical and computer engineering students wishing to broaden their educational experience may elect to earn additional bachelor’s degrees in:
- Engineering Physics
- Physics
- Mathematics
- Computer Science

Klipsch School students may also choose to earn a minor in one or more of the following fields:
- Physics
- Mathematics
- Computer Science

Students must consult with an academic adviser in the offering department for specific requirements related to additional degrees and minors.

BS/MS Program
This program option is designed to provide a means for ECE undergraduates to obtain both a BSEE and a MSEE degree with 153 credit hours of coursework (normally BSEE = 129 hours, MSEE = 30 hours; total = 159 hours). Students electing to utilize this option will follow the existing undergraduate curriculum for the first seven semesters. In the final undergraduate semester, two graduate courses (4-450 level) will be taken in lieu of two ECE electives listed in the undergraduate curriculum. The student receives a BSEE degree at this point. A MSEE degree is obtained by following the existing graduate curriculum. The student receives a BSEE and MSEE degree with 153 credit hours of coursework. All students must obtain prior approval of the department before starting this program option.

Transfer Credit
Credit earned at other institutions is generally accepted; however the following restrictions apply to transfer credits:
- Engineering credit must be earned at an ABET accredited school.
- Physics and mathematics credits must be college-level.
- If the NMSU requirement includes a lab, the transfer credit must include a lab.
- A grade of ‘C’, or better, must have been earned.
- The EE Elective and Capstone electives may not be transferred.

- A grade of C or better is required.
- Certain electives may require additional prerequisites.
- Including laboratory.
- Certain electives may require additional prerequisites.
- Including laboratory.

Students must consult with an academic adviser in the offering department for specific requirements related to additional degrees and minors.

ENGINNEERING PHYSICS

DEGREE: Bachelor of Science in Engineering Physics
The Engineering Physics program is offered jointly by the Physics Department and the College of Engineering. The faculty is drawn from the Departments of Physics, Chemical Engineering, Electrical and Computer Engineering, and Mechanical and Aerospace Engineering.

A strong grasp of underlying physical principles behind the development of new technologies is necessary to keep up with new developments in a high-tech world. The BS in Engineering Physics program is designed to provide quality education to students for immediate employment with technical jobs in private industries (especially high-tech industries), research laboratories, and public sectors. The program trains students with a combination of engineering knowledge, physics principles, mathematical background, problem-solving strategies, and effective communication skills. The BS in Engineering Physics also provides an excellent preparation for graduate studies in either physics or an engineering discipline.

The engineering physics program is offered jointly by the Department of Physics and College of Engineering. The BS in Engineering Physics confers an engineering credential. Students in the program complete an engineering core curriculum, as well as a rigorous course of study in physics and mathematics. A strong laboratory component prepares students in experimental techniques and technology using state-of-the-art equipment.

The goals of the program are:
1.) To give students a strong education in the fundamentals of physics, engineering, applied mathematics, and computation;
2.) To develop skill in real-world problem solving starting from fundamental physical principles;
3.) To improve communication skills; and
4.) To develop ability to work in a team.

MINOR: Computer Engineering (total credits 22)
Prerequisites1 (8 credits) all may be transferred
MATH 191G/191GL, Calculus I and Lab4 ............................................. 4
MATH 192G/192GL, Calculus II and Lab4 ...................................... 4
MATH 392, Differential Equations4 ......................................................... 3
E E 161, Computer Aided Problem Solving2, 4 .................................... 4
E E 210, Engineering Analysis2, 4 ....................................................... 4
PHYS 215G, Physics I2, 4 ................................................................. 4
PHYS 216G, Physics II2, 4 ............................................................... 4
CHEM 111G, General Chemistry2, 4 ...................................................... 4

Lower Division (12 credits) all may be transferred
E E 162, Digital Circuit Design2, 4 .................................................... 4
E E 260, Embedded Systems2, 4 .......................................................... 4
E E 280, DC and AC Circuits2, 4 ......................................................... 4

Upper Division (10 credits) no transfer credit accepted
E E 312, Signals and Systems ............................................................... 3
EE 380, Electronics2, 4 ................................................................. 4
Electives* ............................................................................................ 3

1 Certain electives may require additional prerequisites.
2 Including laboratory
3 A grade of C or better is required.
*Lists of approved electives are available from the Klipsch School office

MINOR: Electrical Engineering (total credits 22)
Prerequisites1 (31 credits) all may be transferred
MATH 191G/191GL, Calculus I and Lab4 ............................................. 4
MATH 192G/192GL, Calculus II and Lab4 ...................................... 4
MATH 392, Differential Equations4 ......................................................... 3
E E 161, Computer Aided Problem Solving2, 4 .................................... 4
E E 210, Engineering Analysis2, 4 ....................................................... 4
PHYS 215G, Physics I2, 4 ................................................................. 4
PHYS 216G, Physics II2, 4 ............................................................... 4
CHEM 111G, General Chemistry2, 4 ...................................................... 4

Lower Division (12 credits) all may be transferred
E E 162, Digital Circuit Design2, 4 .................................................... 4
E E 260, Embedded Systems2, 4 .......................................................... 4
E E 280, DC and AC Circuits2, 4 ......................................................... 4

Upper Division (10 credits) no transfer credit accepted
E E 363, Computer Architecture I ......................................................... 4
E E 469, Digital Communications Networks ....................................... 4
Electives* ............................................................................................ 3

1 Certain electives may require additional prerequisites.
2 Including laboratory
3 A challenge exam is required before transfer credit is accepted.
4 A grade of C or better is required.
*Lists of approved electives are available from the Klipsch School office

MINOR: Engineering Physics (total credits 22)
Prerequisites1 (8 credits) all may be transferred
MATH 191G/191GL, Calculus I and Lab4 ............................................. 4
MATH 192G/192GL, Calculus II and Lab4 ...................................... 4

Lower Division (12 credits) all may be transferred
E E 161, Computer Aided Problem Solving2, 4 .................................... 4
E E 162, Digital Circuit Design2, 4 .................................................... 4
E E 260, Embedded Systems2, 4 .......................................................... 4

Upper Division (10 credits) no transfer credit accepted
E E 363, Computer Architecture I ......................................................... 4
E E 469, Digital Communications Networks ....................................... 4
Electives* ............................................................................................ 3

1 Certain electives may require additional prerequisites.
2 Including laboratory
3 A grade of C or better is required.
*Lists of approved electives are available from the Klipsch School office

Engineering Physics
The student must choose one of four options in Aerospace Engineering, Chemical Engineering, Electrical Engineering, or Mechanical Engineering. The requirements are listed below. Students must earn a C or better in all required courses.

Requirements for Aerospace Option (133 credits)

Physics (36 credits)
- PHYS 213, Mechanics or PHYS 215G Engineering Physics .............................................3
- PHYS 213L, Experimental Mechanics or PHYS 215 L, Engineering Physics Laboratory I .................................................................1
- PHYS 214, Electricity and Magnetism or PHYS 216G Engineering Physics II .............3
- PHYS 214L, Electricity and Magnetism Laboratory or PHYS 216 L, Engineering Physics Laboratory II ..............................................1
- PHYS 217, Heat, Light, and Sound ..................................................................................3
- PHYS 217 L, Experimental Heat, Light, and Sound .........................................................1
- PHYS 315, Modern Physics ............................................................................................3
- PHYS 315L, Experimental Modern Physics ..................................................................3
- PHYS 461, Intermediate Electricity and Magnetism I ....................................................3
- PHYS 462, Intermediate Electricity and Magnetism II ..................................................3
- PHYS 475, Advanced Experimental Modern Physics ...................................................3
- PHYS 495, Mathematical Methods of Physics ...............................................................3

Aerospace and Mechanical Engineering (45 credits)
- ME 102, Introduction to Mechanical Engineering .........................................................1
- ME 159, Graphical Communication and Design .............................................................2
- ME 236, Engineering Mechanics I ................................................................................3
- ME 237, Engineering Mechanics II ................................................................................3
- ME 240, Thermodynamics .............................................................................................3
- CE 301, Mechanics of Materials ...................................................................................3
- ME 345, Experimental Methods I ..................................................................................3
- AE 339, Aerodynamics I ..............................................................................................3
- AE 362, Orbital Mechanics and Space Environment .......................................................3
- AE 363, Aerospace Structures ......................................................................................3
- AE 364, Flight Dynamics and Controls ..........................................................................3
- AE 419, Propulsion ........................................................................................................3
- AE 424, Aerospace Systems Engineering .....................................................................3
- AE 428, Aerospace Capstone Design ............................................................................3
- AE 439, Aerodynamics II .............................................................................................3
- AE 447, Aerofluids Laboratory .......................................................................................3

Electives (6 credits)
- PHYS, AE, or ME electives

Mathematics (14 credits)
- MATH 191G/191GL, Calculus and Analytic Geometry I and Lab ................................4
- MATH 192G/192GL, Calculus and Analytic Geometry II and Lab .............................4
- MATH 291G, Calculus and Analytic Geometry III ......................................................3
- MATH 392, Ordinary Differential Equations ...............................................................3

Additional General Education Requirements (28 credits)
- ENGL 111G, Rhetoric and Composition .......................................................................4
- Oral Communications ....................................................................................................3
- Social and Behavioral Sciences ....................................................................................6-9*
- Humanities and Fine Arts ............................................................................................6-9*
- Viewing a Wider World ...............................................................................................3**

*15 credits total: at least 6 credits in each category

**Viewing a Wider World course cannot be taken in the College of Arts and Sciences or in Aerospace Engineering.

Requirements for Chemical Option (129 credits)

Physics (36 credits)
- PHYS 213, Mechanics or PHYS 215G Engineering Physics .............................................3

Chemistry and Chemical Engineering (48 credits)
- CHE 111, Introduction to Computers in Chemical Engineering ................................3
- CHE 201, Chemical Process Calculations ..................................................................4
- CHE 301, Chemical Engineering Thermodynamics I .................................................3
- CHE 302, Chemical Engineering Thermodynamics II ...............................................3
- CHE 305, Transport Operations I: Fluid Flow .............................................................3
- CHE 307, Transport Operations III: Staged Operations ..............................................3
- CHE 441, Chemical Kinetics and Reaction Engineering ..............................................3
- CHEM 115, Principles of Chemistry I ............................................................................4
- CHEM 118, Principles of Chemistry II ..........................................................................4
- CHEM 313, Organic Chemistry I ................................................................................3
- CHEM 314, Organic Chemistry II ................................................................................3
- CHEM 315, Organic Chemistry Laboratory .................................................................2
- CHEM 371, Analytical Chemistry ................................................................................4

Electives (3 credits)
- PHYS or CHE electives

Mathematics (14 credits)
- MATH 191G/191GL, Calculus and Analytic Geometry I and Lab ................................4
- MATH 192G/192GL, Calculus and Analytic Geometry II and Lab .............................4
- MATH 291G, Calculus and Analytic Geometry III ......................................................3
- MATH 392, Ordinary Differential Equations ...............................................................3

Additional General Education Requirements (28 credits)
- ENGL 111G, Rhetoric and Composition .......................................................................4
- Oral Communications ....................................................................................................3
- Social and Behavioral Sciences ....................................................................................6-9*
- Humanities and Fine Arts ............................................................................................6-9*
- Viewing a Wider World ...............................................................................................3**

*15 credits total: at least 6 credits in each category

**Viewing a Wider World course cannot be taken in the College of Arts and Sciences or in Chemical Engineering.

Students who wish to take the Fundamentals of Engineering Examination are encouraged to take CHE 490 Senior Seminar.

Requirements for Electrical Option (129-130 credits)

Physics (35-36 credits)
- PHYS 213, Mechanics or PHYS 215, Engineering Physics ...........................................3
- PHYS 213L, Experimental Mechanics or PHYS 215 L, Engineering Physics Laboratory I .................................................................1
- PHYS 214, Electricity and Magnetism or PHYS 216, Engineering Physics II .............3
- PHYS 214L, Electricity and Magnetism Laboratory or PHYS 216 L, Engineering Physics Laboratory ..................................................1
- PHYS 217, Heat, Light, and Sound ................................................................................3
- PHYS 217L, Experimental Heat, Light, and Sound ......................................................1
- PHYS 315, Modern Physics ..........................................................................................3
- PHYS 315L, Experimental Modern Physics .................................................................3
- PHYS 461, Intermediate Mechanics I .........................................................................3
- PHYS 454, Intermediate Modern Physics I ..................................................................3
- PHYS 465, Intermediate Modern Physics II ..................................................................3
- PHYS 461, Intermediate Electricity and Magnetism I ...................................................3
- PHYS 462, Intermediate Electricity and Magnetism II ................................................3
- PHYS 475, Advanced Experimental Modern Physics ................................................3

*15 credits total: at least 6 credits in each category

**Viewing a Wider World course cannot be taken in the College of Arts and Sciences or in Aerospace Engineering.

Students who wish to take the Fundamentals of Engineering Examination are encouraged to take CHE 490 Senior Seminar.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHYS 454</td>
<td>Intermediate Modern Physics I</td>
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<td>PHYS 455</td>
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<td>Thermodynamics</td>
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<td>E E 162</td>
<td>Digital Circuit Design</td>
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<td>E E 312</td>
<td>Signals and Systems I</td>
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<td>E E 380</td>
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<td>or EE 310</td>
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</table>

**Electives (9 credits)**

- PHYS 451, Intermediate Mechanics or ME 333, Intermediate Dynamics 
- PHYS or ME electives 

**Mathematics (14 credits)**

- MATH 191G/191GL, Calculus and Analytic Geometry I and Lab 
- MATH 291G, Calculus and Analytic Geometry III 
- MATH 392, Ordinary Differential Equations 

**Natural Science (4 credits)**

- CHEM 111G, General Chemistry I 

**Additional General Education requirements (31 credits)**

- English Composition, Level 2 
- Oral Communications 
- Social and Behavioral Sciences 
- Humanities and Fine Arts 
- Viewing a Wider World 

**Minor**

- Information Technologies

**Program**

- Bachelor of Science in Engineering Technology
- Bachelor of Information and Communication Technology
- Bachelor of Science in Surveying Engineering

**Concentrations**

- Mechanical Engineering, Renewable Energy Technologies
- Civil Engineering, Construction Technology (optional)
- Electrical Engineering, Electronics and Computer Technology
- Engineering Technology - Mechanical, Renewable Energy Technologies (optional)

**Professor**

- Sonya L. Cooper*, department head
- Beasley, Hyde, Jenkins, Associate Professors
- Frank*, Kelly, C. Ricketts, Riko, Stevens*, Wurm*; Assistant Professors
- Morrell, College Associate Professor
- Springer, Professor Emeritus

**Contact**

- (575) 646-2236; engtech@nmsu.edu
- *Registered Professional Engineer (NM)
- **Licensed Professional Surveyor (NM)

**Degree Options**

- Bachelor of Science in Engineering Technology
- Bachelor of Information and Communication Technology
- Bachelor of Science in Surveying Engineering

**Minors**

- Information Technologies
Manufacturing  
Renewable Energy Technologies  
Security Technology  
Surveying Engineering

Engineering Technology

Engineering technology education places an emphasis on the practical application of engineering principles and methods. Engineering technology graduates have employment opportunities in areas such as product and systems development, manufacturing, technical and project management, construction, facilities planning and operation, and testing.

Lists of course equivalencies are available for students transferring to NMSU from most New Mexico and some out-of-state institutions. In addition, the department has some extended articulation agreements, or can provide a department of validation of transfer coursework in many technical subject areas. The department requires that at least 21 credits specifically in the transfer student’s program must be earned at the Las Cruces campus of NMSU. General degree requirements of the College of Engineering and University apply to students in the Department of Engineering Technology and Surveying Engineering. Many ET-prefixed courses carry one or more prerequisites. The instructor of a course may waive a prerequisite(s) for a student, if doing so will not negatively impact the quality of the student’s educational experience.

The department also offers associate degree programs in Electronics and Computer, Mechanical, and Civil Engineering Technology.

The mission of the Department of Engineering Technology and Surveying Engineering is to provide students with a quality engineering technology education that links theory and application and that gives students enhanced career opportunities. The department’s goals supporting this mission are: (1) to provide educational and social environments that promote and facilitate student learning; (2) to have a highly respected and visible department; (3) to foster the development of the department; and (4) to graduate students who are competent and sought after by industry.

DEGREE: Bachelor of Science in Engineering Technology  
MAJOR: Engineering Technology - Civil (Total Credits 133)

Accredited by the Technology Accreditation Commission of the ABET, Inc.

Freshman Year (34 credits)

ET 101, Introduction to Engineering Technology ........................................... 1
DRFT 109, Computer Drafting Fundamentals ................................................. 3
ET 120, Computer and Presentation Software ................................................. 3
ET 154, Construction Methods and Communications .................................. 3
ET 254, Concrete Technology ..................................................................... 3
MATH 190G, 190L, Trigonometry and Pre-Calculus, Lab ....................... 4
PHYS 211G-211GL, General Physics I, General Physics Lab I .................. 4
General Education Core Course from Area I: Level 1 Composition .......... 4
General Education Core Courses from Area IV and/or Area V .......... 9

Sophomore Year (34 credits)

ET 240, Applied Statics .................................................................................. 3
ET 241, Applied Dynamics ............................................................................. 3
DRFT 143, Civil/Survey Drafting I ................................................................. 3
MATH 235, 236, Calculus for the Technical Student I, II .......................... 6
PHYS 212, General Physics II or E T 190, Applied Circuits ................. 3
SUR 222, Plane Surveying ......................................................................... 3
CHEM 110 G, Principles and Applications of Chemistry ...................... 4
General Education Core Course from Area I: Oral Communication .... 3
General Education Core Course from Area I: Level 2 Composition ...... 3
General Education Core Course from Area IV or Area V .................... 3

Junior Year (31 credits)

ET 302, Manufacturing Data Analysis ......................................................... 3
ET 306, Fundamental and Applied Thermodynamics ............................. 3
ET 308, Fluid Technology ........................................................................... 3
ET 308 L, Fluid Technology Lab ................................................................. 1
ET 310, Applied Strength of Materials ......................................................... 3
ET 310 L, Applied Strength of Materials Lab .............................................. 1
ET 332, Applied Design of Structures I ....................................................... 4
ET 354, Soil and Foundation Technology .................................................... 4
ET 355, Site/Land Development and Layout ............................................. 3
ET 381, Renewable Energy Technology ..................................................... 3
ET 386, Sustainable Construction and Green Building Design ........ 3
ET 389, Site/Land Development and Layout ............................................. 3
ET 390, Site/Land Development and Layout ............................................. 3
ET 410, Senior Seminar ............................................................................... 3
ET 412, Highway Technology ..................................................................... 3
ET 418, Applied Hydraulics ....................................................................... 3
ET 420, Senior Internship, or E T 435, Senior Design and Project Management ................................................................. 3
ET 432, Applied design of structures II ....................................................... 4
Approved Technical Electives I, II, III ..................................................... 9
Approved Surveying Elective ................................................................... 3
Viewing a Wider World ............................................................................. 3

CONCENTRATION: Construction Technology

Students can fulfill the Construction Technology Concentration requirements by substituting the classes below for the three technical electives and the surveying elective listed under “Senior Year”:

ET 442, Intelligent Transportation Systems ............................................. 3
ET 455, Cost Estimating and Scheduling .................................................... 3
CE 479, Pavement Analysis and Design .................................................... 3
SUR 328, Construction Surveying ............................................................. 3

CONCENTRATION: Transportation Technology

Students can fulfill the Transportation Technology Concentration requirements by substituting the classes below for the three technical electives and the surveying elective listed under “Senior Year”:

ET 442, Intelligent Transportation Systems ............................................. 3
ET 455, Cost Estimating and Scheduling .................................................... 3
CE 479, Pavement Analysis and Design .................................................... 3
SUR 328, Construction Surveying ............................................................. 3

CONCENTRATION: Renewable Energy Technology

Students can fulfill the Renewable Energy Concentration requirements by substituting the classes below for the three technical electives and the surveying elective listed under “Senior Year”:

ET 381, Renewable Energy Technology ..................................................... 3
ET 389, Sustainable Construction and Green Building Design ........ 3
ET 389, Site/Land Development and Layout ............................................. 3
ET 390, Site/Land Development and Layout ............................................. 3
ET 410, Senior Seminar ............................................................................... 3
ET 412, Highway Technology ..................................................................... 3
ET 418, Applied Hydraulics ....................................................................... 3
ET 420, Senior Internship, or E T 435, Senior Design and Project Management ................................................................. 3
ET 432, Applied design of structures II ....................................................... 4
Approved Technical Electives I, II, III ..................................................... 9
Approved Surveying Elective ................................................................... 3
Viewing a Wider World ............................................................................. 3

DEGREE: Bachelor of Science in Engineering Technology  
MAJOR: Engineering Technology - Electronics and Computer (Total credits 128)

Accredited by the Technology Accreditation Commission of the ABET, Inc.

Freshman Year (32 credits)

General Education Core Course from Area I: Oral Communication .... 3
General Education Core Course from Area I: Level 1 Composition .... 4
ET 101, Introduction to Engineering Technology ........................................ 1
ET 120, Computer and Presentation Software ................................................. 3
ET 182, Digital Logic ................................................................................... 3
ET 190, Applied Circuits ............................................................................. 3
ET 191, Applied Circuits Laboratory ............................................................ 1
MATH 190G, Precalculus ........................................................................... 4
PHYS 211G-211GL, General Physics I, General Physics Lab .................. 4
Sophomore Year: (35 credits)
General Education Core Course from Area III: Laboratory Science ..........................4
General Education Core Course from Area I: Level 2 Composition ..........................3
E T 246, Electronic Devices I ........................................................................ 3
E T 282, Software Technology I .......................................................................3
E T 272, Electronic Devices II ........................................................................ 3
E T 282, Digital Electronics ...........................................................................4
MATH 235, 236, Calculus for the Technical Student I, II ........................................6
PHYS 212-212 L, General Physics II, General Physics Lab II .................................4
General Education Core Course Area IV: Social/Behavioral Sciences .................3

Junior Year (31 credits)
E T 302, Manufacturing Data Analysis ................................................................3
E T 324, Linear Integrated Circuits ......................................................................4
E T 344, Microcomputer Systems .......................................................................3
E T 362, Software Technology II .......................................................................3
E T 377, Computer Networking .........................................................................3
E T 398, Digital Systems ....................................................................................3
Viewing a Wider World from the College of Business ........................................ 3
Approved Technical elective .............................................................................. 3
General Education Core Course Area IV: Social/Behavioral Sciences .................3
General Education Core Course Area V: Humanities and Fine Arts ....................3

Senior Year (31 credits)
C E 450, Engineering Economy and Law ............................................................3
E T 381, Renewable Energy Technology or E T 365, Building Utilities ...............3
E T 402, Instrumentation ...................................................................................3
E T 314, Communication Systems I ....................................................................3
E T 410, Senior Seminar ....................................................................................1
E T 444, Hardware Senior Design ......................................................................3
E T 462, Remote Access Operating systems and Advanced Scripting ...............3
Approved Technical electives ........................................................................... 6
General Education Core Course Area IV: Social/Behavioral Sciences or Area V:
Humanities and Fine Art ...................................................................................3
Viewing a Wider World-Outside the department and major .................................3

CONCENTRATION: Renewable Energy Technology
What follows is a list of courses and the corresponding basic study areas that will result in an emphasis in Renewable Energy Technology within the ECET major. Students can fulfill this Concentration by using their three required technical electives without any additional credit requirements.

Required
E T 381, Renewable Energy Technology. Note: this course cannot be used to simultaneously fulfill the requirement for both a technical elective and the requirement for a required course-see E T 365 below.

2 Courses From:
E T 365, Building Utilities. Note: this course cannot serve both as a technical elective and as a required ECET class toward fulfilling degree requirements.
E T 304, Electrical Machines
E T 374, Electric Power Distribution
E T 382, Solar Energy
E T 384, Wind and Water Energy
E T 396, Heat Transfer and Applications
E T 401, Heating and Air Conditioning Systems
E E 332, Introduction to Electric Power Engineering
CH E 466, Fuel Cell and Hydrogen Technology

Students may choose only one course from the following:
1. E T 420, Senior Internship (must be related to a renewable energy field)
2. E T 435, Senior Design and Project Management (must be related to a renewable energy application)
3. E T 440, Senior Design (must be related to a renewable energy application)
4. E T 441, Senior Project (must be related to a renewable energy application)

Additionally, it is strongly recommended that students select the following courses from the General Education menu options:

English Composition: ENGL 218G or 318G, Technical and Professional Communication or Advanced Technical and Professional Communication

Basic Natural Sciences: CHEM 110G or 111

Human Thought and Behavior: PHIL 240G, Ethics for Engineering and Scientific Careers

Viewing a Wider World recommendations:
- College of Agriculture and Home Economics: AG E 337V, Natural Resource Economics or AGHE 380V, Ecosystem Earth: The Impact of Human Activities
- College of Arts and Sciences: PHYS 330V, Energy and Society in the New Millennium or HIST 302V, Science in Modern Society or HIST 303V, History of Technology
- College of Business: ECON 337V, Natural Resource Economics or ECON 384V, Water Resource Economics

DEGREE: Bachelor of Science in Engineering Technology
MAJOR: Engineering Technology - Information (Total Credits 128)

Seeking accreditation by the Technology Accreditation Commission of ABET Inc.

Freshman Year (33 credits)
General Education Core Course from Area I: Oral Communication ..........................3
General Education Core Course from Area I: Level 1 Composition .........................3-4
E T 101, Introduction to Engineering Technology ..................................................3
E T 120, Computational and Presentation Software .................................................3
E T 182, Digital Logic ...........................................................................................3
E T 160, Basic Computer Operating Systems .........................................................3
MATH 121G, College Algebra ................................................................................3
MATH 190G, Precalculus ....................................................................................3
Approved Laboratory Science, choose 1 from Physics or Chemistry or Biology .......4
General Education Core Course Area IV: Social/Behavioral Sciences .................3
General Education Core Course Area V: Humanities and Fine Arts ....................3

Sophomore Year (34 credits)
General Education Core Course from Area I: Level 2 Composition ..........................3
E T 245, Computer Hardware ..............................................................................3
E T 255, Web Systems .........................................................................................3
E T 262, Software Technology I ...........................................................................3
E T 280, Introduction to Multimedia ......................................................................3
MATH 235, Calculus for the Technical Student I ....................................................3
Approved Laboratory Science, choose 1 from Physics or Chemistry or Biology ........4
Approved Technical Elective ..............................................................................3
General Education Core Course Area IV: Social/Behavioral Sciences .................3
General Education Core Course Area V: Humanities and Fine Arts ....................3

Junior Year (30 credits)
E T 302, Manufacturing Data Analysis ................................................................3
E T 339, Computer Forensics .............................................................................3
E T 344, Microcomputer Systems .......................................................................3
E T 362, Software Technology II .......................................................................3
E T 377, Computer Networking .........................................................................3
E T 477, Computer Networking II .......................................................................3
BCIS 350, Information System Analysis and Design ............................................3
MATH 279, Introduction to Finite Mathematics ....................................................3
Viewing a Wider World-Elective .........................................................................3
Approved Upper Division Technical Elective .......................................................3

Senior Year (31 credits)
E T 457, Introduction to Information Security .......................................................3
E T 458, Database Technology for Engineering ....................................................3
E T 462, Remote Access Operating Systems & Advanced Scripting .................3
Freshman Year (34 credits)

General Education Core Course from Area I: Level 1 Composition
ET 101, Introduction to Engineering Technology
ET 110, Introduction to Computer-Aided Drafting and Design
ET 120, Computation and Presentation Software
ET 182, Digital Logic
ET 190, ET 191; Applied Circuits, Applied Circuits Laboratory
ET 210, Computer-Aided Design
ET 217, ET 217L; Manufacturing Processes, Manufacturing Processes Laboratory
ET 240, Applied Statics
ET 262, Software Technology
ET 308, ET 308L; Fluid Technology, Fluid Technology Laboratory
ET 310, ET 310L; Applied Strength of Materials, Applied Strength of Materials Laboratory
MATH 235, Math for the Technical Student
PHYS 212, 212L; General Physics II, General Physics II Laboratory

Sophomore Year (34 credits)

General Education Core Course from Area I: Oral Communication
General Education Core Course from Area IV: ECON 251G or ECON 252G
ET 217, ET 217L; Manufacturing Processes, Manufacturing Processes Laboratory
ET 240, Applied Statics
ET 262, Software Technology
ET 308, ET 308L; Fluid Technology, Fluid Technology Laboratory
ET 310, ET 310L; Applied Strength of Materials, Applied Strength of Materials Laboratory
MATH 235, Math for the Technical Student
PHYS 212, 212L; General Physics II, General Physics II Laboratory

Junior Year (31 credits)

ET 241, Applied Dynamics
ET 306, ET 306L; Fundamental and Applied Thermodynamics, Thermodynamics Laboratory
ET 328, Kinematics of Machines
ET 365, Building Utilities; or ET 381, Alternative Energy Technologies
ET 396, Heat Transfer and Applications
MATH 236, Math for the Technical Student II
Approved technical elective

Senior Year (31 credits)

CE 450, Engineering Economy and Law; or I/E/CH E 451, Engineering Economy
ET 410, Senior Seminar
ET 422, Mechanical Measurements; or ET 402, Instrumentation
ET 426, Analysis/Design of Machine Elements
ET 435, Senior Design and Project Management
Approved Viewing a Wider World (I), General Education management course
Approved elective in management, business, or marketing; or upper division math course
Two approved technical electives
Approved Viewing a Wider World (II) elective*
The ICT program is a distance education program and does not require any on-campus visits, although a limited number of optional, on-campus laboratories may be offered for certain classes. Students who are successful in distance education programs typically are self-motivated, do not rely heavily on face-to-face instruction, work independently, and can remain on schedule.

This program was not designed to be an engineering or engineering technology program although there is significant overlap with one of the engineering technology programs offered by the department. Thus, the Information and Communication Technology Program differs from the other baccalaureate programs offered by the departments in the College of Engineering in that it is not accredited by the Accreditation Board for Engineering and Technology (ABET), the accrediting agency for engineering and technology. However, the ICT program is accredited under New Mexico State University’s accreditation by the Higher Learning Commission of the North Central Association of Colleges and Schools.

**DEGREE: Bachelor of Information and Communication Technology (128 credits)**

**Freshman and Sophomore Years (80 credits)**

The freshman and sophomore years are typical of computer and technology-related associate degree programs from accredited community colleges, or other two-year institutions.

Typically, students with an AS or ASS degree enter the ICT major having met the General Education requirements (32 credits) of:

- **Area I: College Level Writing**
  - Area I: English Composition ..............................................3

- **Area I: College Level Writing**
  - Area I: College Level Writing ...........................................3

- **Area II: Mathematics (above requirements exceed GE requirements)**
  - MATH 121G, College Algebra .................................................3

  - E T 262, Software Technology I ..........................................3

  - E T 120, Computer and Presentation Software ..................3

  - Electives (Typically content courses from an AS or AAS) .......3

  If a student has not met the above requirements, they must make arrangements to fulfill these prerequisites or their equivalents.

**Junior and Senior years**

The ICT degree is a *distance education* styled degree in which students will take ICT courses via the Internet. To that end, they must have familiarity with and access to:

- a computer with a CD drive
- a current web browser
- a high speed Internet connection
- e-mail capability
- a sound card, and
- Microsoft Office

**Junior Year (21 credits)**

- ICT 320, Applications Software for IT .................................3

- ICT 339, Computer Forensics ..............................................3

- ICT 345, Computer Hardware Fundamentals ....................3

- ICT 362, Software Technology II .......................................3

- ICT 377, Computer Networking .........................................3

- ICT 456, Analysis of Physical Security Systems .................3

- Viewing a Wider World* ..................................................3

**Senior Year (27 credits)**

- ICT 460, Advanced Topics in Multimedia ..........................3

- ICT 435, Senior Design or Internship .................................3

- ICT 457, Introduction to Information Security ...................3

- ICT 458, Database Technology for Engineering ................3

- ICT 462, Remote Access Operating Systems and Advanced Scripting 3

- ICT 463, Computer Systems Administration ....................3

- ICT 477, Computer Networking II ....................................3

- Viewing a Wider World* ..................................................3

- Elective (must be an upper division course) .......................3

**Surveying Engineering**

Surveying Engineering involves the application of knowledge to the analysis, design, and execution of surveying and mapping projects and the design of land mapping and information systems. Surveyors rely on an understanding of the science of surveying measurement and analysis, the legal principles of boundary location, the laws related to boundaries and land use, and applicable mathematical and computational theories and principles when performing this work. Positional accuracy, land planning and development concepts pertinent to subdivision sciences such as geodesy are each a part of professional surveying.

Surveying engineers work for private surveying or engineering firms, for City, County, State or Federal Highway Departments, for State Lands Commissions, for the US Forest Service and for the US Bureau of Land Management.

The mission of the Department of Engineering Technology and Surveying Engineering is to provide men and women with the rigorous, fundamental education needed to enter and succeed in the surveying and surveying-related professions.

To accomplish this mission, the department will introduce students to the theory and application of recognized surveying principles.

**DEGREE: Bachelor of Science in Surveying Engineering (total credits 130)**

**Math and Science Courses (32 credits)**

- GEOL 111G, Survey of Geology or G EN 160, Geology for Engineers ....4

- MATH 191G, Calculus I ....................................................3

- MATH 192G, Calculus II ..................................................3

- MATH 280, Linear Algebra ...............................................3

- PHYS 215G, Engineering Physics I ....................................3

- PHYS 215GL, Engineering Physics I Lab ...........................1

- PHYS 216G and 216GL, Engineering Physics II or PHYS 217 and 217L, Heat, Light and Sound and Experimental Heat, Light and Sound Laboratory ........4

- STAT 371, Statistics for Engineers and Scientists ................3

- Math/Science electives 1, 2 .............................................8

**General Education Coursework (31 credits)**

- Area I: Communications electives ....................................10

- ENGL 111G

  - Writing elective (ENGL 218G recommended)

- Area II: Mathematics (above requirements exceed GE requirements)

- Area III: Laboratory Science (above requirements exceed GE requirements)

- Area IV: Social/Behavioral Science electives ....................6-9

  - ECON 215 or ECON 252 recommended

  - Area V: Humanities and Fine Arts electives .....................6-9

  - Viewing a Wider World electives 3 .................................6

**Surveying Engineering Coursework (49 credits)**

- SUR 222, Plane Surveying ...............................................3

- SUR 285, Photogrammetry ...............................................3

- SUR 292, Public Land Survey System Boundaries .................3

- SUR 312, Legal Principles of Boundary Surveying ..............3

- SUR 328, Principles and Practices of Construction Surveying ....3

- SUR 330, Computer Applications of Surveying ..................3

- SUR 351, Introductory Survey Measurements, Analysis, and Adjustments 3

- SUR 361, Introduction to Geodesy ....................................3

- SUR 401, Ethics and Professionalism in Surveying and Mapping 3

- SUR 450, Senior Project ..................................................3

- SUR 451, Advanced Survey Measurements, Analysis and Adjustments 3

- SUR 452, Land Development Design ................................3

- SUR 461, Introduction to Satellite Geodesy ........................3

- Engineering electives 4 .................................................9

- Senior Elective 8 ...........................................................3

**Other Coursework (19 credits)**

- CE 451, Engineering Economy and Law, or IE 451, Engineering Economy ....3

- GEOG 381, Cartography and GIS .....................................3

- DRFT 109, Computer Drafting Fundamentals ....................3
MINOR: Manufacturing
A student must pass 18 credits from the list below with a grade of C or higher. No courses may be taken S/U. All prerequisites for the classes must be met or consent of instructor obtained before enrolling in a class. Students can fulfill major portions of this Minor by using their departmental electives in a judicious manner.

Required Courses: 12 credits
ET 339, Computer Forensics ................................................................. 3
ET 377, Networking I ........................................................................... 3
BCIS 350, Information Systems Analysis ............................................ 3
ET 362, Software Technology II or BCIS 322- Advanced Object-Oriented Programming ................................................................. 3

Choose one (1) of the following three paths for the additional two (2) courses: 6 credits
Path 1 Required courses:
ET 477, Networking II ........................................................................ 3
BCIS 480, E-commerce Security ............................................................ 3
Path 2 required courses:
ET 456, Database Technology for Engineering .................................. 3
BCIS 450, Systems Design, Development and Implementation or BCIS 475- Database Management System .................................................. 3
Path 3 required courses:
ET 463, Computer System Administration ......................................... 3
ET 457, Introduction to Information Security Technology or BCIS 482, Management of Information Security .............................................. 3

MINOR: Information Technologies
A student must pass 18 credits from the list below with a grade of C or higher. No courses may be taken S/U. All prerequisites for the classes must be met or consent of instructor obtained before enrolling in a class. Students can fulfill major portions of this Minor by using their departmental electives in a judicious manner.

Required Courses: 12 credits
ET 339, Computer Forensics ................................................................. 3
ET 377, Networking I ........................................................................... 3
ET 362, Software Technology II or BCIS 322- Advanced Object-Oriented Programming ................................................................. 3

Choose one (1) of the following three paths for the additional two (2) courses: 6 credits
Path 1 Required courses:
ET 477, Networking II ........................................................................ 3
BCIS 480, E-commerce Security ............................................................ 3
Path 2 required courses:
ET 456, Database Technology for Engineering .................................. 3
BCIS 450, Systems Design, Development and Implementation or BCIS 475- Database Management System .................................................. 3
Path 3 required courses:
ET 463, Computer System Administration ......................................... 3
ET 457, Introduction to Information Security Technology or BCIS 482, Management of Information Security .............................................. 3

MINOR: Renewable Energy Technologies
A student must pass 18 credits from the list below with a grade of C or higher. No courses may be taken S/U. All prerequisites for the courses must be met or consent of the instructor obtained before enrolling in a class. Students can fulfill major portions of the requirements for this Minor by selecting their departmental electives in a judicious manner. The Viewing A Wider World requirement may be simultaneously met with this coursework where the coursework is outside a student's department.

Three (3) required courses selected from: 9 cr.
• ET 381 (cross-listed with WERC) Renewable Energy Technologies
• ET 382 “ Solar Energy
• ET 384 “ Wind and Water Energy
• ET 386 “ Sustainable Design and Construction

Two (2) courses selected from: 6 cr.
• CH E/WERC 486, Fuel Cell and Hydrogen Technology
• EE 322, Introduction to Electric Power Engineering
• E T 365, Building Utilities
• E T 304, Electric Machines
• E T 374, Electric Power Distribution
• ET 396 or ME 341 (not both), Heat Transfer and Applications
• E T/ME 401, Heating & Air Conditioning Systems

Students may only take one class from the following choices:
1. E T 420*, Senior Internship
2. E T 435*, Senior Design and Project Management
3. E T 440/441*, Senior Design and Senior Project

* (must be related to a renewable energy field and approved by faculty advisor)

One (1) course selected from the following: 3cr.
Note: if the selected class is outside the student’s college it may also satisfy a Viewing A Wider World requirement:
• College of AG:
  • AGE 337V, Natural Resource Economics or
  • AGHE 380V, Ecosystem Earth; The Impact of Human Activities
• College of Arts & Science:
  • Phys 303V, Energy and Society in the New Millennium or
  • Hist 302V, Science in Modern Society or
  • Hist 303V, History of Technology
• College of Business:
  • ECON 373V, Natural Resource Economics or
  • ECON 384V, Water Resource Economics
• College of Engineering:
  • E T 360V, Technology in Business and Society

MINOR: Security Technology
A student must pass 18 credits with a grade of C or higher as outlined below. No courses may be taken S/U. A student must register in the minor before enrolling in any upper division Criminal Justice courses.

1. All students must complete the following: E T/ICT 456, Analysis of Physical Security systems................................................................. 3
2. Any two C J courses from the following: C J 321, Criminal Investigation and Intelligence; C J 412, Introduction to Security Technology and Loss Prevention; C J 425, Ethics in Criminal Justice .................................................. 6
3. One of the following E T courses: E T/ICT 457, Introduction to Information Security; E T/ICT 458, Database Design and Application .................................................. 3
4. Any two courses from the following, or any courses listed in #2 and #3 not completed: C J 322, Organized Crime; C J 411, Nature of Crime; C J 432, Issues in Criminal Justice to be approved by C J Department Head; C J 480, Criminal Justice Planning and Crime Analysis; C J 483, Terrorists; C J 484, Hate Crimes and Domestic Terrorism; E T/ICT 339, Computer Forensics; E T/ICT 377, Computer Networking (for use by students not majoring in E T); E T/ICT 490, Selected Topics to be Approved by E T Department Head ............... 6

Three upper-division C J courses may meet 3 of the 6 credit Viewing A Wider World requirements for students majoring outside of the College of Arts and Sciences. Three upper-division E T courses may meet 3 of the 6 credit Viewing A Wider World requirements for students majoring outside of the College of Engineering.
MINOR: Surveying Engineering (24 credits)

GEOG 381, Cartography and Geographic Information Systems......................3
SUR 222, Plane Surveying..............................................................................3
SUR 285, Photogrammetry............................................................................3
SUR 292, Public Lands and Survey System Boundaries..................................3
SUR 312, Legal Principles of Boundary Surveying.........................................3
SUR 328, Principles and Practices of Construction Surveying may be substituted by SUR 354, Advanced Plane Surveying)..............................................3
SIR 361, Introduction to Geodesy.................................................................3
Survey elective (any 300 or higher surveying engineering course)..................3

INDUSTRIAL ENGINEERING

Associate Professor Edward Pines, department head
Associate Professors Cecil, Mullen, Pines; Assistant Professors Sohn,
Valles-Rosalie; College Associate Professor Green
(575) 646-4923

DEGREE: Bachelor of Science in Industrial Engineering

Industrial engineers design, develop, install and improve integrated systems of people, equipment, information, financial resources, software, materials, and energy. Industrial engineers work in a variety of manufacturing, health care, utility, retail, government and research settings, therefore the tools and methods of the industrial engineer are both varied and broad. They use knowledge and skills in engineering, mathematics, and physical and social sciences along with the principles and methods of engineering analysis and design to monitor and improve such systems. New Mexico State University’s undergraduate degree program in Industrial Engineering prepares students to join the work force or pursue graduate education while setting the foundation for life-long learning.

Specifically, graduates of the program will be:
- able to apply various industrial engineering techniques in an integrated fashion to solve real world problems in process design and/or improvement;
- able to obtain meaningful employment or enroll in a graduate program; and
- prepared for a long-term, successful career sustained by life-long learning experiences.

In addition, the Engineering Accreditation Commission of ABET, Inc. criteria in conjunction with the Institute of Industrial Engineers, requires that:
- baccalaureate degree graduates will be able to demonstrate the ability to design, develop, implement and improve integrated systems that include people, materials, information, equipment and energy;
- industrial engineering curriculums include in-depth instruction allowing students to accomplish the integration of systems using appropriate analytical, computational and experimental practices; and
- that faculty teaching in industrial engineering departments show evidence of understanding professional practice and maintain currency in their respective professional areas. Program faculty must have responsibility and sufficient authority to define, revise, implement, and achieve program objectives.

Requirements (Total credits 132)

In addition to the university requirements for graduation, a student must have a 2.0 grade-point average in all departmental courses and take the Fundamentals of Engineering Examination prior to graduation.

Freshman Year (35 credits)

CHEM 111G, General Chemistry I (Area III)..................................................4
ENGL 111G, Rhetoric and Composition (Area I)..........................................4
I E 110, Industrial Engineering Orientation....................................................1
I E 151, Computational Methods in Industrial Engineering I..........................3
I E 152, Introduction to Industrial Engineering..............................................2
MATH 191G/191GL, Calculus and Analytic Geometry I and Lab (Area II).......4
MATH 192G/192GL, Calculus and Analytic Geometry II and Lab (Area II).....4
M E 159, Graphical Communication and Design..........................................2

PHYS 215G, Engineering Physics I (Area III).................................................4
PHYS 215GL, Engineering Physics I Lab (Area III).......................................1
Approved general education elective: Humanities and Fine Arts** (Area V)....3
Science elective***......................................................................................4

Sophomore Year (33 credits)

C E 233, Mechanics-Statics, or M E 236, Engineering Mechanics I.............3
Approved general education core common electives: Social and Behavioral Sciences** (Area IV)..........................................................6
I E 217, Manufacturing Processes...........................................................2
I E 217L, Manufacturing Processes Lab......................................................1
I E 311, Engineering Data Analysis.............................................................3
I E 351, Computation Methods in Industrial Engineering II........................3
MATH 291G Calculus and Analytic Geometry III.......................................3
Engineering science elective*....................................................................6
Approved general education core common electives: Social and Behavioral Sciences or Humanities and Fine Arts ** (Area IV or V)............3
Science elective***......................................................................................3

Junior Year (31 credits)

CH E 361, Engineering Materials.................................................................3
Communications Composition Elective *(Area I)..........................................3
I E 316, Methods Engineering.................................................................3
I E 365, Quality Control.............................................................................3
I E 467 Simulation Modeling....................................................................4
MATH 392, Differential Equations............................................................3
Math elective *, (Linear Algebra)...............................................................3
Engineering Elective*...............................................................................3
Approved general education core common elective Humanities and Fine Arts** (Area V)................................................................................3
NMSU specific elective: Viewing a Wider World+.................................3

Senior Year (33 credits)

Communications, oral elective* (Area II)..................................................3
I E 413, Engineering Operations Research I...............................................3
I E 423, Engineering Operations Research II.............................................3
I E 424, Manufacturing Systems..............................................................3
I E 451, Engineering Economy...............................................................3
I E 460, Evaluation of Engineering Data......................................................3
I E 478, Facilities Planning and Design.....................................................3
I E 480, Senior Design.............................................................................3
Engineering electives*...............................................................................6
NMSU Specific Elective: Viewing a Wider World*.................................3
* A detailed list of approved electives is available in the Department of Industrial Engineering.
** The catalog section “General Education Courses and Requirements” includes a list of approved electives.
** A two-course sequence in either physics or chemistry is required.

*Registered Professional Engineer (NM)
†Registered Professional Engineer (State other than NM)

MECHANICAL ENGINEERING and AEROSPACE ENGINEERING

Professor Thomas D. Burton, department head
Associate Professor Ronald J. Pederson†, associate department head
Professors Genin†, Hardee*, Ma, Smith* (emeritus); Associate Professors
Butcher, Choo, Conley†, Garcia, Leslie, Park, Sebastianov; Assistant Professors
Cai, Dobroskok, Lee, Shashikanth, Wei; College Professors Donaldson*, Hill
(575) 646-3501
DEGREE: Bachelor of Science in Mechanical Engineering

The mechanical engineering program prepares students for a wide range of professional engineering careers in such areas as research and development, design, facilities operation and maintenance, management, and production. Graduates of the program will be prepared to apply engineering sciences, mathematics, computational methods, modern experimental methods, and effective communication skills to problems of interest in industry and government or scholarly topics. Employment opportunities for graduates are extensive. These include energy and utility, manufacturing, automotive, aerospace, defense and space, research and development, and many others. The emphasis in the curriculum is on engineering sciences (solid mechanics, thermal sciences, fluid mechanics, and materials science), mathematics, engineering analysis, engineering design, general sciences, and communication balanced with general education topics and electives. Graduates of the program will also be prepared for graduate studies (subject to grade-point and standardized test qualifications). Students will be prepared to take the fundamentals of engineering examination (and are encouraged to do so) as a step towards professional registration.

Mechanical Engineering Educational Goals and Objectives

The goals of the Department of Mechanical Engineering, as set forth in the departmental strategic plan, are:

• to educate those who will advance knowledge and become the future leaders of industry and academia;
• to conduct both basic and applied research in mechanical engineering and related interdisciplinary areas; and
• to provide service to the profession, to the State of New Mexico, to the country, and to the future development of engineering world wide.

A critical focus within the department is to afford undergraduates of varying backgrounds and abilities every opportunity for achieving success in the mechanical engineering profession. To address this focus, the faculty of the mechanical engineering department, with input from other constituents, have established the following educational objectives for the undergraduate program:

• Technical Knowledge: Graduates will possess a mastery of the fundamentals of mechanical engineering necessary to be productive and innovative engineers in industry or government, prosperous entrepreneurs, and/or succeed in graduate or other professional schools, and to advance in their employment.

• Problem-Solving Skills: Graduates will be able to formulate, analyze, and creatively participate in the solution of multidisciplinary technical problems through the use of modern engineering tools, be they experimental, analytical or computational.

• Communication Skills: Graduates will be able to formulate, analyze, and creatively participate in the solution of multidisciplinary technical problems through the use of modern engineering tools, be they experimental, analytical or computational.

• Professionalism: Graduates will possess the skills needed to fulfill their professional duties and responsibilities in teamwork, collegiality, ethics, technical leadership, business acumen, and lifelong learning.

Graduation Requirements

In addition to the NMSU requirements for graduation, a student must obtain a minimum grade of C in mechanical or aerospace engineering courses.

Requirements (Total credits 134)

Freshman Year (31 credits)
CHEM 111G, General Chemistry I, and CHEM 112G, Chemistry II 8
ENGL 111G, Rhetoric and Composition 4
MATH 191G/191GL, Calculus and Analytic Geometry I and Lab 4
MATH 192G/192GL, Calculus and Analytic Geometry II and Lab 4
M E 102, Mechanical Engineering Orientation 1
M E 159, Graphical Communication and Design 2
M E 166, Introduction to Mechanical Engineering 2
M E 222, Product Development/Laboratory 3
Approved General Education Area I Writing elective 3

Sophomore Year (36 credits)
C E 301, Mechanics of Materials 3
E E 201, Networks I 3
MATH 291G, Calculus and Analytic Geometry III 3
MATH 392, Differential Equations 3
M E 236, Engineering Mechanics I 3
M E 237, Engineering Mechanics II 3
M E 240, Thermodynamics 3
M E 260, Mechanical Engineering Problem Solving 3
PHYS 215G, Engineering Physics I 3
PHYS 216G, Engineering Physics II 3
Approved General Education Area I Communications elective 3
Approved General Education Area IV Social/Behavioral elective 3

Junior Year (33 credits)
CHE 361, Engineering Materials 3
M E 328, Engineering Analysis I 3
M E 330, Fluid Mechanics 3
M E 340, Applied Thermodynamics 3
M E 345, Experimental Methods I 3
M E 326, Mechanical Design 3
M E 341, Heat Transfer 3
Approved Mechanics elective* 3
Approved General Education Area IV Social/Behavioral Science elective 3
Approved General Education Area V Humanities/Fine Arts elective 3
Approved General Education Area V Humanities/Fine Arts elective 3

Senior Year (34 credits)
M E 329, Engineering Analysis II 3
M E 425, Design of Machine Elements 3
M E 426, Design Project Laboratory I 3
M E 427, Design Project Laboratory II 3
M E 445, Experimental Methods II 3
M E 449, Mechanical Engineering Senior Seminar 1
Approved General Education Area IV or V elective 3
Approved General Education Viewing a Wider World elective 6
Mathematics elective** 3
Mechanical engineering electives*** 6
*Mechanics elective must be taken from M E 331, 332, or 333.
**Mathematics electives must be taken from MATH 391, 471, 472, 473, 480, STAT 371, or 1 E 310.
***Students in their senior year choose 6 credits of M E electives.

DEGREE: Bachelor of Science in Aerospace Engineering

The aerospace engineering program prepares students for a range of professional engineering careers in aerospace and related professions. The aerospace engineering curriculum covers the important classical areas of low and high speed aerodynamics, propulsion, orbital mechanics, flight mechanics and control, aerospace structures, and laboratory practice. In addition, the principles of systems engineering and design that are necessary to conceive, design, analyze and troubleshoot complex engineering systems are covered extensively and are considered to be especially important in the overall educational experience. Students will also be encouraged to participate in significant non-classroom experiences, including co-ops and internships, industrial and laboratory field trips, guest speakers from outside NMSU, the New Mexico Space Grant Program, and special seminar programs on current topics in aerospace. Aerospace engineers find employment in areas of launch vehicles, space vehicles and missions, aircraft systems design, land and sea vehicle design, robotics and automated manufacturing, safety, and other areas. The aerospace engineering background also allows graduates to pursue careers in non-aerospace fields of engineering. Graduates of the aerospace engineering program will be prepared to apply engineering sciences, mathematics, computational methods, modern experimental methods, effective communication skills, and systems engineering principles to problems of interest in industry, and in research and development. The aerospace engineering program is also intended to prepare students to pursue graduate study, which can be of significant benefit in the aerospace profession. The general goals of the aerospace engineering program, as well as the program educational objectives, will be the same as those stated above for the mechanical engineering program.

Requirements (Total credits 134)

Freshman Year (31 credits) (Same as M E above)
CHEM 111G, General Chemistry I, and CHEM 112G, Chemistry II 8
**Sophomore Year (36 credits) (Same as ME above)**

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 301</td>
<td>Mechanics of Materials</td>
<td>3</td>
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<tr>
<td>EE 201</td>
<td>Networks I</td>
<td>3</td>
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<tr>
<td>MATH 291G</td>
<td>Calculus and Analytic Geometry III</td>
<td>3</td>
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<tr>
<td>MATH 392</td>
<td>Differential Equations</td>
<td>3</td>
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<td>ME 236</td>
<td>Engineering Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>ME 237</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>ME 240</td>
<td>Thermodynamics</td>
<td>3</td>
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<tr>
<td>ME 260</td>
<td>Mechanical Engineering Problem Solving</td>
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<td>PHYS 215G</td>
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<td>Engineering Physics II</td>
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<td>Approved General Education Area I Writing Elective</td>
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**Junior Year (33 credits)**

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<td>CEE 361</td>
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<td>ME 345</td>
<td>Experimental Methods I</td>
<td>3</td>
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<td>ME 341</td>
<td>Heat Transfer</td>
<td>3</td>
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<tr>
<td>AEE 339</td>
<td>Aerodynamics I</td>
<td>3</td>
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<td>AEE 362</td>
<td>Orbital Mechanics and the Space Environment</td>
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<td>AEE 363</td>
<td>Aerospace Structures</td>
<td>3</td>
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<td>AEE 364</td>
<td>Flight Dynamics and Controls</td>
<td>3</td>
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<tr>
<td>AEE 439</td>
<td>Aerodynamics II</td>
<td>3</td>
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<td></td>
<td>Approved General Education Area IV Social/Behavioral Sci elective</td>
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<tr>
<td></td>
<td>Approved General Education Area V Humanities/Fine Arts elective</td>
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**Senior Year (34 credits)**

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<tr>
<td>ME 329</td>
<td>Engineering Analysis II</td>
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<td>ME 449</td>
<td>Mechanical Engineering Senior Seminar</td>
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<td>AEE 419</td>
<td>Propulsion</td>
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</tr>
<tr>
<td>AEE 424</td>
<td>Aerospace Systems Engineering</td>
<td>3</td>
</tr>
<tr>
<td>AEE 428</td>
<td>Aerospace Capstone Design Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>AEE 447</td>
<td>Aerofluids Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

Approved General Education V Humanities/Fine Arts elective ............... 3
Approved General Education Area IV or V elective .................... 3
Approved General Education Viewing a Wider World electives ........... 6
Mathematics elective** ................................................................. 3
Aerospace engineering electives*** ............................................... 3

**Students in their senior year choose 3 credits of A E electives.

**MINOR: Aerospace Engineering (total credits 44)**

**Prerequisites** (26 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 191G/191GL</td>
<td>Calculus I and lab2</td>
<td>4</td>
</tr>
<tr>
<td>MATH 192G/192GL</td>
<td>Calculus II and lab2</td>
<td>4</td>
</tr>
<tr>
<td>MATH 291G</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MATH 392</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 215G</td>
<td>Engineering Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 216G</td>
<td>Engineering Physics II</td>
<td>3</td>
</tr>
<tr>
<td>ME 236</td>
<td>Engineering Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>ME 237</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>ME 240</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ME 260</td>
<td>Mechanical Engineering Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 215G</td>
<td>Engineering Physics I</td>
<td>3</td>
</tr>
<tr>
<td>ME 236</td>
<td>Engineering Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>ME 237</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>ME 240</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AEE 389</td>
<td>Aerodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>AEE 364</td>
<td>Flight Dynamics and Control</td>
<td>3</td>
</tr>
</tbody>
</table>

**A E Electives (6 credits)**

Choose one course from the following:

- AEE 362, Orbital Mechanics & Space Environment .................. 3
- AEE 363, Aerospace Structures ......................................... 3

Choose one course from the following:

- AEE 362, Orbital Mechanics & Space Environment .................. 3
- AEE 363, Aerospace Structures ......................................... 3
- AEE 424, Aerospace Systems Engineering ............................ 3
- AEE 447, Aerofluids Laboratory ........................................ 3

**Certain Electives may require additional prerequisites.

A grade of C or better is required.
To graduate from the Bachelor of Applied Studies program, you must:

- Complete a minimum of 128 credit hours (or more, depending on your program of study)
- Complete a minimum of 48 credit hours of upper-division courses (#300-499) including six hours of Viewing a Wider World
- Complete the university’s general education core requirements (at least 35 hours of approved New Mexico Common Core courses)

DEGREE: Bachelor of Individualized Studies

The Bachelor of Individualized Studies (BIS) program is ideal for students with academic and career aspirations that require inter- or multi-disciplinary study. The program attracts motivated and self-directed students who feel constrained by the specialized nature of traditional degree programs and want to design their own, personalized plan of study. Other students, particularly those returning to the university after years away, or those with full-time jobs, choose the BIS degree because they have specific personal or job-related academic needs that can be met most efficiently through the BIS.

BIS Admission Requirements

Students seeking admission to the BIS program must:

- Demonstrate basic academic skills in English and mathematics at NMSU (see Regulations - Basic Academic Skills)
- Have a minimum of 28 credit hours with a cumulative grade point average of 2.0 or above
- Not have yet earned, or simultaneously be, a candidate for another baccalaureate degree or a graduate degree
- Develop, in consultation with a BIS advisor, a Program of Study that builds on the applicant’s existing coursework and meets the stated education or career goals
- Submit an application, which includes written, clearly articulated educational or career goals, and a proposed Program of Study

Degree Requirements

Once admitted into the BIS program, you must:

- Maintain a 2.0 GPA
- Pass all courses approved with a grade of C or higher

To graduate from the Bachelor of Individualized Studies program, you must:

- Complete a minimum of 128 credit hours (or more, depending on the Program of Study)
- Complete a minimum of 48 credit hours of upper-division courses (#300-499) including six hours of Viewing a Wider World
- Complete the University’s general education core requirements (at least 35 hours from the University’s list of New Mexico Common Core courses)

Concentrations

Students seeking a baccalaureate degree may elect to complete a concentration, which is designated on their transcript. Concentrations will not be acknowledged after the degree has been conferred.

A concentration consists of a minimum of 24 credits, of which must be upper-division. The concentration may be in a single department or may be interdisciplinary. Available concentrations are as follows:

- Bilingual Early Childhood Education
- CMI – Animation
- CMI – Film
- Crime Analysis
- Emergency Management
- Homeland Security
- Intelligence Analysis

Specific requirements for the concentrations are available at the College of Extended Learning.
DISTANCE EDUCATION

The College of Extended Learning provides comprehensive distance learning opportunities to meet diverse educational and professional needs anytime, anywhere. Distance education courses from NMSU are delivered using the most innovative technology and methods available, including satellite television, ITV (Interactive Television), the World Wide Web, faculty exchanges, and off-site classes. Degree programs include bachelor degree completion, master’s degrees, and doctorates.

Programs Offered Through Distance Education

NMSU’s distance education programs are designed to serve students who may not be able to pursue an education through traditional means. NMSU offers bachelor degree completion programs, masters and doctorate programs, and certificate and licensure options. Technology-based programs are delivered using a learning management system, web conferencing software, archived video, ITV (Interactive Television), and other learning technologies. In some cases, brief residencies on the NMSU Las Cruces campus may be a requirement of the program. Current programs are listed below by college. For more information, visit http://distance.nmsu.edu/ and contact the respective college or academic department.

College of Agriculture and Home Economics
- Bachelor of Science in Hotel, Restaurant and Tourism Management
- Master of Arts in Agricultural and Extension Education

College of Arts and Sciences
- Bachelor of Arts in Sociology
- Bachelor of Criminal Justice
- Master of Arts in Sociology
- Master of Criminal Justice

College of Business
- Bachelor of Business Administration (General Business)
- Bachelor of Business Administration (Marketing)

College of Education
- Bachelor of Science in Elementary Education
- Master of Arts in Education
- Master of Arts in Educational Administration
- Master of Arts in Teaching (emphasis in science)
- Doctor of Education in Educational Administration (Educational Leadership)
- Doctor of Philosophy in Curriculum and Instruction
- Educational Administrative Licensure
- Post BA Elementary Licensure
- School Counseling Licensure
- Special Education Alternative Licensure
- Information Technology Coordinator Endorsement
- Reading Endorsement

College of Engineering
- Bachelor of Information and Communication Technology
- Master of Science in Industrial Engineering

College of Extended Learning
- Online Teaching and Learning Graduate Certificate (OTL)

College of Health and Social Services
- Bachelor of Human and Community Services
- Bachelor of Science in Nursing
- Master of Science in Nursing
- Master of Science in Nursing (Psychiatric-Mental Health)
- Master of Social Work

Active Military Educational Opportunities

NMSU is committed to serving the educational needs of service members and their families by providing degree programs through the most innovative technology methods available. Delivery methods include face-to-face on campus, WebCT (online,) videocassette, hybrid, and podcast, as well as others. As a Servicemembers Opportunity Colleges (SOC) institution, NMSU supports service members by maximizing their educational opportunities. The College of Extended Learning coordinates NMSU participation in SOC, Defense Activity for Non-Traditional Education Support (DANTES), and Centralized Tuition Assistance Management Program (CTAMS.) For information and assistance, contact the College of Extended Learning.

Teaching Academy

The Teaching Academy supports teachers, enhances learning, and builds community by providing training, networking, and mentoring to all NMSU educators. The Academy provides workshops and short courses on teaching, time management, mentoring, scholarly writing, and other topics, as well as trips to teaching conferences. The Teaching Academy is located in room 50, Milton Hall. Detailed information is available at http://www.teaching.nmsu.edu, by telephone at (575) 646-2204, or through email at teaching@nmsu.edu.

Media Technologies

Media Technologies facilitates two-way video conferencing for meetings and distance education courses. In addition, services are available for voice-over IP, audio and video duplication, standards conversions, field and studio videotaping, editing, and course delivery through cable television, satellite, teleconferencing, and more. Courses at NMSU may use a blended approach to instruction that integrates two or more types of these technologies to promote engaging and effective learning.

Weekend Courses

For students who find it difficult or impossible to take classes during the week because of work or family responsibilities, the College of Extended Learning offers regular, full-credit courses taught weekly on Friday evening, Saturday, and Sunday at the Las Cruces campus. Courses are available for anyone wanting to start or return to college and for those wishing to take courses for personal enrichment. Detailed information is available at http://www.nmsu.edu/weekend or by telephone at (575) 646-6837 or 1-800-621-1574.

NMSU Student Learning Outcomes Assessment

Students enrolled in the College of Extended Learning will participate in NMSU’s Student Learning Outcomes Assessment program as required.
Bachelor of Community Health
Bachelor of Science in Nursing
Bachelor of Social Work

The College of Health and Social Services brings together associated disciplines and professional fields of study directly applied to the improvement of the quality of life and its existence in rapidly changing family and community environments. The college includes the Department of Health Science, and the Schools of Nursing and Social Work.

While the ultimate responsibility for planning an academic program in compliance with university, college, and departmental requirements rests with you, the college recognizes the importance of helping you work out appropriate academic programs. All Health and Social Service students pursuing bachelor's degrees are advised about academic matters in the college advising center, located in the Health and Social Services building. In addition, students are encouraged to contact departments for specific subject area information and career planning. Once students are accepted into the School of Nursing or School of social work, they are advised about academic matters in the appropriate school.

Bachelor Degree Graduation Requirements

Three bachelor degree programs are available: Bachelor of Community Health, Bachelor of Science in Nursing, and Bachelor of Social Work.

To be awarded a bachelor degree you must:

1. Complete the requirements for the degree as shown by the department in which the degree is offered including a minimum of 54 credits of upper-division courses (numbered 300 and above) and the minimum total number of credits required for the degree.
2. Complete the general education common core presented in the general education section of this catalog, the specific general education courses that may be required by each department, and Viewing a Wider World requirements specified elsewhere in this catalog.*
3. Complete any other requirements for graduation as discussed under “Regulations” in the “General Information” chapter of this catalog.

*Students must check with their academic advisor for current requirements and lists of specific courses that meet these requirements.

HEALTH SCIENCE

Professors Arnold, Brandon, Buckingham, Robinson, Young; Associate Professors: Forester-Cox, Hill (Emerita), Hussain, Kozel, Rao, Wilson; Assistant Professors: Kratzke, Palacios; College Assistant Professor: Havre, Kendall; (575) 646-4300;

DEGREE: Bachelor of Community Health

MINORS: Community Health
Gerontology
U.S.-Mexico Border Health

DEGREE: Bachelor of Community Health

The curriculum in community health prepares students for careers in community and public health programs, and in voluntary, private, and governmental agencies. Upon completion of the degree, the graduate is eligible to take the national Certified Health Education Specialist (CHES) examination administered by the National Commission for Health Education Credentialing, Inc. The Bachelor of Community Health degree has the full approval of the national Society for Public Health Education (SOPHE)/American Association for Health Education (AAHE)/Baccalaureate Program Approval Committee (SABPAC).

Students seeking admission to the Bachelor of Community Health degree in the Department of Health Science at NMSU are first admitted as pre-community health (PCHL) students. Students keep this designation until they have met the following admissions requirements:

A) A cumulative grade-point average of at least 2.0 after completing specified general education coursework (the common core).
B) A grade of C or better in prerequisite departmental courses (HL S 100, 150, 275, and 395).
C) A grade of C or better in both MATH 120 and EST 251/STAT 251 or STAT 271.
D) A score of 37 or better on the Conventions of Written English examination.
E) Submission of an application packet that includes (1) a brief personal statement of interest in the profession, and (2) a completed application for the Bachelor of Community Health degree program.

The Bachelor of Community Health degree program accepts applicants during the Spring and Fall semesters. The deadlines for accepting application packets are September 15 for Spring admission and February 15 for Fall admission. All applications must be submitted to the College of Health and Social Services Student Resource and Advising Center, room HSS 326.

Applicants may receive a conditional acceptance into the program if they are currently enrolled in the last of the required pre-requisites at the time that they submit an application to the Bachelor of Community Health degree program. Such conditional acceptance will be revoked if the applicant does not successfully complete each of the pre-requisite courses.

Students must attain a grade of C or better in all required HL S core coursework.

Any student who receives two or more grades of D or F in required HL S core courses must petition, in writing, to continue as a major. Unsuccessful petitioners will be dismissed from the program.

General Requirements (44 credits)

General education requirements for the Department of Health Science follow those outlined by the university in this catalog.

Departmental Requirements

You are required to complete the following Health Science core courses. Of the 128 credits required for the degree, you must have a minimum of 48 upper division credit hours (300- and 400-level courses).

Prerequisite Courses (16 credits)

HL S 100, Introduction to Health Science ........................................1
HL S 150, Personal Health and Wellness .................................3
HL S 275, Foundations of Health Education ............................3
HL S 395, Foundations of Public Health .................................3

Accreditation

Within the College of Health and Social Services, the baccalaureate degree program in the Department of Nursing is accredited by the National League for Nursing. The baccalaureate degree program in the School of Social Work is accredited by the Council on Social Work Education. The Bachelor of Community Health degree program in the Department of Health Science is accredited by the Society for Public Health Education/American Association of Health Education Baccalaureate Program Approval Committee.
MATH 120, Intermediate Algebra ......................................................... 3
EST/STAT 251, Statistics for Business and the Behavioral Sciences, or *EST 311G, Statistical Applications .................................................. 3
(* EST 311G does not meet the Common Core Area II)

Community Health Education Core (25 credits):
HL S 471, Resources and Computer Applications in Health Education .......... 3
HL S 473, Health Program Planning .......................................................... 3
HL S 475, Methods of Community Health Education ...................................... 3
HL S 476, Health Risk Reduction ............................................................... 3
HL S 478, Health Program Evaluation and Research ........................................ 3
HL S 496, Community Health Education Field Experience .......................... 6
HL S 497, Senior Seminar in Community Health Education .......................... 1
HL S 499, Problems in Health Education ................................................... 3

Public Health Core (15 credits)
HL S 450, Epidemiology ........................................................................... 3
HL S 451, Biometrics and Health Research ................................................ 3
HL S 452, Environmental Issues in Community Health ............................... 3
HL S 457, Administration of Health Programs .............................................. 3
HL S 459, Infectious/Noninfectious Disease Prevention ............................... 3

Select one (1) of the following (3 credits) Cultural Foundations Course

Requirements
HL S 461, Health Communication with Hispanic Clients ............................... 3
HL S 462, Hispanic Health Issues ............................................................... 3
HL S 463, Interdisciplinary Seminar ............................................................ 3
HL S 464V, Cross Cultural Aspects of Health .............................................. 3
HL S 465, International Health Problems ................................................... 3
HL S 466, International Health Practicum .................................................... 1-3
HL S 467, Rural Health Issues ................................................................. 3
HL S 468, Coping With Loss and Grief: A Cross-Cultural Perspective .......... 3
HL S 469, U.S.-Mexico Border Health Issues ............................................. 3

Elective (31 credits)
An additional 31 credit hours of elective courses are required. You must select additional electives to bring your total number of credit hours to the University requirement of 128. Students are encouraged to select additional HL S and GERO courses to satisfy the elective requirement. Students with an associate degree in an allied health field may transfer up to 31 credit hours of electives.

Minors in Health Science
A grade of C or better is required for all minors coursework.

MINOR: Community Health (18 credit hours)
Core Community Health Education Courses (12 credit hours): HLS 275, Foundations of Health Education; HLS 395, Foundations of Public Health; HLS 450, Epidemiology; HLS 457, Administration of Health Programs ................................................................. 12
Select one (3 credit hours): HLS 300, Drugs and Behavior; HLS 355, Responding to Emergencies; HLS 361, Human Sexuality; HLS 380, Women’s Health Issues; HLS 320, Human Stress Management; HLS 492, Health Care of the Aged ......................................................... 3
Select one (3 credit hours): HLS 461, Health Communications with Hispanic Clients; HLS 462, Hispanic Health Issues; HLS 463, Interdisciplinary Seminar; HLS 464V, Cross-Cultural Aspects of Health; HLS 465, International Health Problems; HLS 466, International Health Practicum; HLS 467, Rural Health Issues; HLS 468, Coping with Loss and Grief: A Cross-Cultural Perspective ......................................................... 3

MINOR: Gerontology (18 credit hours, on-line program only)
Core Gerontology Courses (12 credit hours): GERO 415, Intro to Gerontology; GERO 493, Adulthood and Aging; GERO 456, Biological Aspects of Aging; GERO 494, Aging in a Multicultural Society ......................................................... 12
Select two (6 credit hours): FCS 448, The Aging Family; HNFS 406, Geriatric Nutrition; GERO 490, Health Promotion for the Elderly; GERO 465, Aging and Public Policy; NURS 324, Nursing Care of the Older Adult ......................................................... 6

MINOR: U.S.-Mexico Border Health Issues (18 credit hours)
Core - U.S.-Mexico Border Health Issues Courses (6 credit hours): HLS 463, Interdisciplinary Seminar (when subtitle relates to US-Mexico Border Health) or HLS 466, International Health Practicum; HLS 469, U.S.-Mexico Border Health Issues ................................................................. 6
Select four (12 credit hours): HLS 461, Health Communication with Hispanic Clients; HLS 462, Hispanic Health Issues; HLS 464V, Cross-Cultural Aspects of Health; HLS 465, International Health Problems; HLS 467, Rural Health Issues; HLS 468, Special Topics (when subtitle relates to US-Mexico Border Health); GERO 494, Aging in a Multicultural Society; HLS 491, AIDS and Public Health Practice and Policy; HLS 483, Parental and Child Health Issues; HLS 484, Alcohol and Drug Prevention and Control; HLS 488, Health Dilemmas of Selected Populations ......................................................... 12

NURSING
Interim Director & Associate Dean for Nursing Education: Jacalyn Ryberg Hoke, Huttlinger, Schultz, Associate Professors Borges, Keele, Pase, Robbins, Sizemore, Assistant Professors Keller, Lynch, Mullins, Reinhardt (575) 646-3812

DEGREE: Bachelor of Science in Nursing
NMSU’s School of Nursing offers a Bachelor of Science in Nursing (B.S.N.) degree. The degree plan provides three options to accommodate either the beginning nursing student, the beginning nursing student with a baccalaureate degree in another field, or the returning registered nurse. Students in the beginning categories are eligible to take the NCLEX-RN examination for licensure as a registered nurse upon completion of their program studies. Option three is designed for the registered nurse who wishes to complete a B.S.N.

The Bachelor of Science in Nursing degree program is approved by the New Mexico Board of Nursing and accredited by the Commission on Collegiate Nursing Education (CCNE). Approval by the New Mexico Board of Nursing is required for graduates to be eligible for the National Council Licensure Examination for licensure as a registered nurse. Accreditation by the CCNE assures prospective students and employers that the program has met national education standards.

Requirements for B.S.N. Program Admission

Requirements and procedures to follow for admission to the four-year B.S.N. program are as follows:

1) Obtain admission to NMSU as a regular student.
2) Contact the nursing advisor in the College of Health and Social Services Dean’s office for complete Nursing Program information and advisement.
3) Satisfy NMSU basic academic competency requirements in English and Math.
4) Complete all prerequisite coursework before final admission to the nursing major.
5) Prerequisite science courses must have been completed within the past seven years.
6) Achieve a grade of C or better in each nursing prerequisite course.
7) Achieve a competitive minimum prerequisite GPA of 3.0 which includes grades earned from all higher education institutions.
8) Prelicensure applicants to the NMSU School of Nursing are required to take a standardized admission exam. Scores for this exam may be considered in the admission process.
9) Applicants will be considered for admission to the nursing major during the fall or spring semester of anticipated completion of prerequisite coursework or after prerequisite courses are completed. Applicants for fall semester admission may not finish prerequisites in the summer session immediately preceding the fall semester in which they wish to be admitted.
10) Submit an official application to the four-year B.S.N. program to the College of Health and Social Services Dean’s office by February 1— for consideration for fall admission to the nursing major September 1— for consideration for spring admission to the nursing major

NOTE: Admission is competitive. Priority for admission will be given to applicants with the highest GPAs in the required prerequisite coursework, to those appli-
cants who have completed prerequisite coursework at NMSU, and/or to those who have not repeated a prerequisite course or courses where a D or F was earned. Any applicant not admitted to the nursing major may reapply.

Second Degree/BSN (Roadrunner option)

Requirements and procedures for admission to the second degree option are as follows:

1. Obtain admission to NMSU as a second bachelor’s degree with official transcripts.
2. Contact the nursing advisor in the College of Health and Social Services for complete Nursing Program information, application, and advisement.
3. Have a minimum 3.0 GPA on a 4.0 scale in first bachelor’s degree.
4. Have a minimum of a 3.0 GPA on a 4.0 scale in the required pre-requisite anatomy and physiology (8 credits), and third science course (3 credits).
5. Submit an official application to the second degree option to the College of Health and Social Services Advisor’s office by February 1 for consideration for Summer I admission to the nursing program.
6. Complete a resume documenting prior education and work experience.
7. Recommended medical terminology course.
8. Submit an official application for the four-year B.S.N. program to the College of Health and Social Services before February 1 for consideration for summer admission for the Second Degree/BSN Roadrunner option.

FOUR-YEAR CURRICULUM PLAN COURSES*  
Math basic academic skills requirement must be satisfied.

Departmental Requirements

BIOL 211G and Lab, Cell and Organismal ................................................................. 4
BIOL 219 or BIOL 311, Microbiology ................................................................. 3
BIOL 253 Anatomy or Anatomy and Physiology II ................................................. 4
BIOL 254 Physiology or Anatomy and Physiology I .............................................. 3-4
BIOL 311L, Microbiology .................................................................................... 2
C EP 110, Human Growth and Behavior ............................................................... 3
CHEM 110G, Principles and Applications of Chemistry or CHEM 111G, General Chemistry I or CHEM 112G, General Chemistry II with Lab ............................................. 4
E ST 311, Statistical Applications or STAT 251G, Statistics for Business and the Behavioral Sciences ................................................................. 3
HNFS 251, Human Nutrition or HNFS 163, Nutrition for Health ..................... 3
MATH 121G, College Algebra ........................................................................... 3
PSY 201, Introduction to Psychology .................................................................. 3
.............................................................................................................................. 35-36

Common Core

Communications Area I ..................................................................................... 9-10
Math Area II (counted in department) ..............................................................
Science Area III (counted in department) .........................................................
Social/Behavior Science Area IV (3 cr. counted in department)......................... 3
Humanities Area V ........................................................................................... 6-9

University Requirements

VWW (from specified list) ................................................................................... 3
VWW (from specified list) ................................................................................ 3
.............................................................................................................................. 27-28

Formal Acceptance required before taking NURSING courses

Semester 5

NURS 300, Principles of Professional Nursing Practice .................................. 7
NURS 302, Foundations of Health Assessment ................................................. 3
NURS 326, Pharmacology in Clinical Nursing Practice .................................... 4
NURS 328, Human Pathophysiology for Foundation in Nursing .................... 4

Semester 6

NURS 372, Adult Health Nursing I ................................................................... 8
NURS 373, Nursing the Psychiatric Mental Health Client .................................. 5
NURS 375, Introduction to Nursing Research (E ST) ...................................... 3

Semester 7

NURS 410, Adult Health Nursing II ................................................................. 6
NURS 415, Parent-Child Nursing ....................................................................... 8
NURS 416, Nursing Care for the Older Adult ................................................... 2

Semester 8

NURS 470, Nursing Organization and Management ........................................ 3
NURS 472, Community and Population-Focused Nursing ............................... 6
NURS 479, Nursing Care for Complex Patients ................................................. 8

Note: 1) An applicant who is not a U.S. citizen or who has been convicted of a felony is advised to contact the appropriate State Board of Nursing regarding eligibility for licensure. 2) Clinical clearances are required for all students (i.e., current immunizations; background screening; drug testing; current CPR status; and various health agency workshops). Failure to complete and provide documentation within timelines established by the School of Nursing may prevent admission to/or continuation within the nursing program. 3) Students are required to take nationally normed tests throughout the curriculum and to make a satisfactory score on such tests for progression to the next semester. In the last semester of the curriculum, students are required to take a comprehensive exam and to make a satisfactory score on such a exam prior to participation in their preceptor experience. 4) Newly admitted students are required to attend an orientation session which occurs prior to the start of classes for their first nursing semester. 5) School-wide activities usually occur 1-3 days prior to the start of classes and attendance is required.

R.N.-B.S.N.

Requirements and procedures for admission to the R.N. to B.S.N completion program area are as follows:

1. Regular status admission to the University.
2. All Nursing coursework is 100% online.
3. Contact the School of Nursing for complete program information and application materials.
4. Submit an official application to the School of Nursing.
5. Provide evidence of graduation from an accredited associate or diploma nursing program.
7. Apply during fall or spring for summer admission.
8. Satisfy NMSU basic academic competency requirements in English and Math.
9. Submit official transcripts from all nursing schools, colleges and universities attended to the School of Nursing. These will be evaluated for allowable transfer credits.
10. Achieve a minimum GPA of 2.5 on a 4.0 scale for prerequisite courses and prior nursing coursework.
11. Completed prerequisite course work.
12. Approved clinical preceptors available in your area.
13. Attend MANDATORY 2-3 day online orientation.
14. Have access to a computer and internet service.
15. Meet Clinical Clearance requirements to include background check.

Note: Nursing class sizes are limited. Students admitted to the R.N.-B.S.N. program may be accommodated based on space availability in any given nursing course. All documentation must be submitted to the school by December 1st to begin nursing classes the following May. Generally, the sequence of nursing classes start in Summer I (May). If additional classes are added, students must submit all documentation at least 6 months prior to the start of the nursing sequence to allow for timely reviews and selection of the nursing cohort.

R.N. to B.S.N. Completion Curriculum

Non-nursing and General education (or equivalent) courses (See the “General Information” section of this catalog for details of NMSU general education requirements). A grade of C or better is required in all courses within the curriculum. In addition all students must complete:

- Inferential statistics
- Two Viewing a Wider World: “G” courses
SOCIAL WORK

School of Social Work
Shelly A. Bucher, LMSW, Interim Director

Professors Anderson, Sallee, Sandau-Beckler, Associate Professors Barnett-Queen, Barney, Blair, Chornesky, Coggins, de la Rosa, deRoos, Peralta; Assistant Professors Bushfield, Roditti, Whittlesey-Jerome; College Assistant Professors Ortiz, Villalobos

Student Services Coordinator, Irma Hernandez
(505) 646-2143

DEGREE: Bachelor of Social Work (B.S.W.)

The B.S.W. degree allows you to join a profession dedicated to helping people in personal and social situations. As a unique and challenging field, social work addresses the complexity of human behavior and the ever-present needs and potential of people. From rural communities to inner cities, social workers are at work in social service agencies, mental health centers, hospitals, schools, neighborhood organizations, probation offices, and private agencies—just about anywhere there are people. Social work roles are varied and flexible. Social workers practice in areas such as child abuse, community organization, direct services with individuals and families, mental health, group work, and the administration, planning, and development of social programs. With each consumer group and in every agency setting, social workers help to correct the causes or alleviate the results of poverty, racism, poor health, mental illness, or any condition that prohibits people from reaching their potential.

The B.S.W. program prepares you for a beginning professional level of generalist social work practice with an understanding and appreciation of the cultural diversity of the Southwest.

To be admitted as a B.S.W. candidate, you must formally apply for admission to the program. A 2.5 grade-point average is required for admission. Consult the pre-social work major advisor, located in the School of Social Work in the College of Health and Social Services. The deadline for submitting applications is the last Friday in January. The program is fully accredited by the Council on Social Work Education and all students have access to copies of the Curriculum Policy Statement.

General Education Requirements

Students need to complete the New Mexico State University general education requirements before applying to the Bachelor of Social Work program. The School of Social Work requirements include S WK 221 and two semesters of a second language. Once accepted into the program, students also need to meet a Cultural Emphasis requirement.

Students may choose one of three tracks to complete a minimum of 6 credit hours.

1) Take two more semesters of any language.
2) Take an approved language immersion program.
3) Take two approved upper-level courses with a multicultural emphasis (you can get the approved list of courses from your social work advisor).

If the cultural emphasis classes are also viewing a Wider World classes, you still need to complete the total number of specified upper-division credits necessary for graduation. Highly recommended electives for social work students include courses in sociology, history, Spanish, psychology, family life, child development, English, philosophy, anthropology, computer science, criminal justice, government, and economics. Electives must be sufficient to bring total credits to 128, including 54 upper-division credits, for graduation.

Departmental Requirements

Preparation for entry-level professional social work requires a thorough knowledge of theory and skills; therefore, the high number (51) of core social work credits is required. The coursework may be completed in four years by full-time students, but most students benefit from taking no more than 12 to 15 credits per semester, therefore five years is a recommended time frame to complete the 128 required credits.

Freshman Year

Fall Semester (16-18 credits)

ENGL 111G/111H, Rhetoric and Composition .................................................. 3-4
Lab Science ..............................................................................................................4
Communications .................................................................................................... 3
Second language .................................................................................................... 3-4
Elective .................................................................................................................... 3

Spring Semester (15-16 credits)

Social/Behavioral Science ..................................................................................... 3
Lab Science .......................................................................................................... 3-4
Second language .................................................................................................. 3-4
S WK 221G, Introduction to Social Welfare ...................................................... 3

Sophomore Year

Fall Semester (18 credits)

ENGL 203G, ENGL 211G, or ENGL 218G ......................................................... 3
Humanities/Fine Arts .............................................................................................. 3
Social/Behavioral Science .................................................................................... 3
Elective (Recommended E ST 311G or STAT 251G) ........................................ 3
Elective .................................................................................................................. 3
Elective .................................................................................................................. 3

Spring Semester (18 credits)

Viewing a Wider World ....................................................................................... 3
Viewing a Wider World ....................................................................................... 3
Humanities/Fine Arts ............................................................................................. 3
Elective .................................................................................................................. 3
Elective .................................................................................................................. 3
Elective .................................................................................................................. 3

NOTE: Students need to submit a formal application packet to the School of Social Work in January and be accepted into program before they can take junior or senior year courses.
### Junior Year

**Fall Semester (15 credits)**
- SWK 300, Social Work Practice Skills .................................................. 3
- SWK 309, Sociocultural Concepts ............................................................ 3
- SWK 311, Human Behavior and the Social Environment I ......................... 3
- SWK 331V, Introduction to Social Policy: History ................................... 3
- Cultural Emphasis elective* ........................................................................ 3

**Spring Semester (15 credits)**
- SWK 312, Human Behavior and the Social Environment II ....................... 3
- SWK 313, Social Work Practice with Individuals ........................................ 3
- SWK 314, Social Work Practice with Families ........................................... 3
- SWK 352, Social Welfare Policy: Legislation ........................................... 3
- Cultural Emphasis elective* ........................................................................ 3

### Senior Year

**Fall Semester (15 credits)**
- SWK 400, Social Work Practice with Groups, Community, and Organizations .................................................. 3
- SWK 467, Social Work Research I ............................................................. 3
- Elective (recommend STAT 251G) ............................................................. 3

**Spring Semester (15 credits)**
- SWK 402, Field Experience II ..................................................................... 6
- SWK 420, Social Welfare Policy: Administration ....................................... 3
- SWK 468, Social Work Research II ............................................................ 3
- Mandatory Practice elective** ..................................................................... 3

**NOTE:** A grade of C or better is required for all social work courses.

*See list from advisor.

**Second Course of Study for elective options.

### Five-Year Bachelor of Social Work Program

The BSW core courses may be completed in three years. Students submit a formal application after completing 66 credits of general education requirements, prerequisites and electives. Once admitted into the social work program, you will take the following courses.

**NOTE:** The field experience requires 16 hours per week in a community agency. Therefore it is strongly advised that students not have employment obligations.

### Junior Year

**Fall Semester (9 credits)**
- SWK 300, Social Work Practice Skills .................................................. 3
- SWK 311, Human Behavior and Social Environment I ............................... 3
- SWK 331V, Introduction to Social Policy: History ................................... 3

**Spring Semester (9 credits)**
- SWK 312, Human Behavior and Social Environment II ......................... 3
- SWK 313, Social Work Practice with Individuals ....................................... 3
- SWK 352, Social Policy: Legislation .......................................................... 3

### Senior Year-Fourth Year

**Fall Semester (9 credits)**
- SWK 309, Sociocultural Concepts ............................................................ 3
- Cultural Emphasis elective* ........................................................................ 3
- Elective (recommend STAT 251G) ............................................................. 3

**Spring Semester (9 credits)**
- SWK 314, Social Work Practice with Families ........................................... 3
- SWK 420, Social Welfare Policy: Administration ....................................... 3
- Cultural Emphasis elective* ........................................................................ 3

### Senior-Fifth Year

**Fall Semester (12 credits)**
- SWK 400, Social Work Practice with Groups, Community, and Organizations .................................................. 3
- SWK 401, Field Experience I ..................................................................... 6
- SWK 467, Social Work Research I ............................................................. 3

**Spring Semester (12 credits)**
- Mandatory Practice elective** ..................................................................... 3
- SWK 402, Field Experience II ..................................................................... 6
- SWK 468, Social Work Research II ............................................................ 3

**NOTE:** A grade of C or better is required for all social work courses.

*See list from advisor.

**See Course of Study for elective options.
The Honors College is located in the Conroy Honors Center on the corner of University and Espina Avenues. Most honors classes are taught either in the Conroy Honors Center or in the honors residence center in Monagle Hall. (575) 646-2005 http://honors.nmsu.edu/

Mission of the Honors College

The mission of the New Mexico State University Honors College is to serve the citizens and state of New Mexico by providing an enriching environment for diverse, academically talented, and motivated students. The Honors College also seeks to create a community of scholars and mentors that fosters personal growth, critical thinking, leadership, independence, curiosity, and social responsibility. The college aspires to cultivate student potential to broadly understand and positively impact communities, organizations, and the larger world. The Honors College aims to focus campus attention on excellence in undergraduate education while strengthening New Mexico State University’s reputation as the university of choice in New Mexico.

In support of this mission, the Honors College integrates the following objectives:

- Provide students with an interdisciplinary, intellectually challenging curriculum that integrates active and service-based learning;
- Promote university-wide undergraduate research opportunities, linking students with faculty mentors;
- Foster faculty enrichment and professional development;
- Encourage, mentor, and guide students seeking postgraduate scholarships and fellowships;
- Offer students opportunities for developing leadership skills;
- Create a residential community that combines learning inside and outside the classroom.

In small classes taught by master teachers, students in the Honors College engage in lively discussion and collaborative investigation of interdisciplinary topics. By taking honors courses, students may also work toward completing general education requirements and disciplinary requirements in the major.

Students in the Honors College are ‘dual citizens’, i.e., they enroll in both the college(s) of their major/minor and the Honors College. The Honors College does not offer a degree; instead, it offers students the opportunity to graduate with one of the programs listed below. Almost all honors courses fulfill university general education requirements. To have these courses count toward one of these programs, a student must earn at least a B.

The Honors Faculty

The Honors College faculty come from academic departments from throughout the university. Members of the faculty are chosen through a rigorous selection process and include many of New Mexico State University’s most distinguished teachers and researchers.

Professors: Alvarez, Baker, Bronstein, Catlett, Cooke, Eamon, Ellis, Falk, Fouillade, Gehrke, Giles, Goss, Hammond, Lapid, Lawton, Linkin, Lodder, Manning, Mays, McNamara, Pengelley, Pollack, Rundell, Serrano, Shearer, Stanford, Swanson, Thompson, Zakahi

Associate Professors: Ackleson, Alexander, Bond-Maupin, Butler, Cleveland, Ellis, Gregware, Harvey, Holtzman, Ketelaar, Lee, Lindsey, Malamud, Miller-Tomlinson, Murrell, Olberding, Scoccia, Wolf

Assistant Professors: Amato, Garay, Guyon, Horadowich, Horowitz, Hubbell, Knapp, Lamonica, Rourke, Schirmer, Spitzer

College Professors: Fitzsimmons, Lampert, Lavender

Adjunct Professor: Lewis

Emeritus Professors: Compton, Denk, Ocepek, Staffeldt, Trevathan

Admission to the Honors College

Students are admitted to the Honors College by application. The following eligibility criteria apply:

**Automatic Eligibility.** Entering freshmen are automatically eligible for admission to the Honors College by meeting one of the following criteria:

- composite ACT score of 26 (or 1180 SAT score); or
- high school GPA of 3.75 or higher and an ACT of at least 24 (or 1100 SAT)

**Admission by Petition.** Entering freshmen who have an ACT score of at least 24 (or 1100 SAT score) or a high school GPA of 3.90 may submit a written petition for provisional admission to the Honors College using a form provided by the Honors College office upon the request of the student. A College Admissions Committee composed of the Dean, Associate Dean, and one member of the honors faculty review petitions and determine whether provisional admission shall be granted.

**Transfer and Continuing Students.** Transfer and continuing students who have earned at least 15 college credit hours will be eligible for admission to the college on the basis of a cumulative college GPA that meets eligibility requirements for continuing students (see below).

**Eligibility for Continuing Membership.** The eligibility criteria for continuing membership in the Honors College is the same as for continuing Crimson Scholars status:

- Fewer than 28 hours earned: 3.3 GPA
- More than 28 hours earned: 3.5 GPA

**Appeals.** Students who fall below the designated GPAs and lose their eligibility for Honors College status due to extraordinary circumstances may petition the College Admission Committee for readmission.

Enrolling in Honors Courses

Students do not have to be members of the Honors College to enroll in honors courses. Any eligible student may enroll. The eligibility requirements to enroll in lower-division honors courses are the same as those pertaining to admission to the college and continuance in the college. For upper-division courses, the requirement is a cumulative 3.2 GPA. Students lacking these requirements may petition the Honors College Dean for permission on a case-by-case basis.

Graduating with University Honors

The Honors College offers two program options: graduation with University Honors and the Honors Certificate. Each option has separate eligibility requirements, benefits, and forms of recognition for the student. Almost all honors courses fulfill university general education requirements. To have these courses count toward one of these programs, a student must earn at least a B.

Any student who attains an overall GPA of 3.5-3.749 and who completes 15 credits of honors coursework and the honors thesis is eligible to graduate with University Honors. Students who attain an average of 3.75 or better and who complete 15 credits of honors coursework and the honors thesis are eligible to graduate with Distinction in University Honors. Transcripts will certify graduation with University Honors or Distinction in University Honors. Students who complete the requirements for graduation with either distinction receive recognition in the commencement program, a Certificate of Distinction, and a medallion upon graduation.

University Honors Requirements

Freshman-Sophomore Years

Three courses from the Honors Core (lower division)
Junior-Senior Years

Two 300- or 400-level Honors Certificate Program courses ........................................ 6

Thesis or Final Project ........................................................................................................ 3

Total Credits Required ........................................................................................................ 18

Final Project

In order to graduate from the Honors College with the designation of University Honors or Distinction in University Honors, a student must complete a final project. The final project is normally done during the senior year and may be undertaken only if the student meets the eligibility requirements for graduation from the College (3.5 minimum GPA and the required courses). The final project carries 3 graded credit hours.

Before beginning the final project, the student must choose a faculty advisor and file with the College a proposal that is approved by the faculty advisor and the Dean of the Honors College. The final project is graded by the faculty advisor, who submits a final grade to the Dean of the Honors College.

Candidates for graduation with University Honors and Distinction in University Honors are expected to make public presentations of their final projects at one or more of the following: (1) the Undergraduate Research and Creative Arts Symposium, (2) a department seminar, (3) and/or a seminar sponsored by the Honors College. The method of presentation shall be that deemed appropriate for the discipline in which the project is undertaken.

The written component of the final project shall be filed with the Honors College in a bound copy according to the guidelines established by the college.

The final project may be any one of the following:

Thesis — The thesis is an independent scholarly or scientific research project that is undertaken with the advice and direction of a member of the university faculty. The thesis does not need to be on a topic in the student’s major field, but must meet the guidelines and protocols of the discipline in which it is written. The faculty advisor, in consultation with the thesis committee, will examine the student’s thesis and determine a final grade.

Creative Arts or Performance Project — The Senior Creative Arts/Performance project may take the form of an exhibition, recital, or other venue deemed appropriate by the faculty advisor and the Dean of the Honors College. In addition to the performance or exhibition, the student must complete a written report or description of the project that is approved by the faculty advisor, to be filed with the Honors College.

Service Learning Project — The Service Learning Project shall be undertaken under the auspices and supervision of an agency approved by the Dean of the Honors College. A faculty advisor must approve the project and monitor its progress. The Service Learning Project must be more than simply a certain number of hours volunteered to an agency. It must also involve a creative and leadership element, such as the design of a program or policy that identifies a problem and meets a specific need of the agency. A time log and journal shall be kept by the student during the course of the project. A written report describing the objective and design of the project, as well as an evaluation of its successes and failures, must be submitted to the Honors College according to norms established by the college. The report must also contain a reflective component, demonstrating increased self-awareness and personal growth.

At the completion of the final project, the student will be required to do an exit interview with the faculty advisor and/or Dean of the Honors College. Such interviews will be used in the formal assessment process.

Community Service Options

The Honors College encourages its students to perform volunteer public service. Under certain circumstances, public service may be used as an alternative to completing some of the requirements for graduation from the Honors College. The following guidelines apply:

During the sophomore, junior, or senior year, a student with at least a 3.5 GPA may undertake community service with an agency or organization in Doña Ana County (or an agency outside the area approved by the Honors College Dean) to earn a waiver of up to 3 of the hours required for University Honors (not including the Final Project). A minimum of 15 hours of community service per week, per semester is required for each honors credit hour to be waived. Community service hours must be verified by a supervisor of the agency or organization on a form approved by the Honors College. On-campus activities are not included under this option. The student must also certify that the community service hours are not being used for any course or degree requirement. Approval of the Dean of the Honors College must be obtained prior to beginning volunteer service to be eligible for this option.

International Study Option

Students in the Honors College are strongly encouraged to participate in international study. An NMSU honors student with at least a 3.5 GPA may earn a waiver of up to 3 credit hours required for University Honors for such international study (not including the Final Project). This waiver will be awarded for college credit earned while participating in any international study program approved by the Honors College or the Office of International Study. One honors hour will be waived for each 3 semester credit hours earned with a grade of ‘A’, ‘B’, or ‘S’. Permission to use this option must be approved in advance by the Honors College.

Note: Waiver of university honors credit for service learning or international study does not reduce or affect in any way the total number of hours required for graduation. Waiver of honors credit for service learning or international study cannot be applied toward the final project requirement.

Honors Certificate Program

Sophomores, juniors, and seniors with a cumulative grade-point average of 3.2 are eligible for the Honors Certificate Program. A student who completes at least two 300- or 400-level honors seminars will be given a Certificate of Distinction at graduation and special recognition in the commencement program. See the honors Dean for details on available seminars, Honors College, Conroy Honors Center.

Crimson Scholars Program

The Crimson Scholars Program is a benefits and recognition program for academically superior students who have a cumulative 3.5 GPA and are taking three or more credits per semester. Crimson Scholars receive a number of benefits, including:

- Automatic eligibility for all Honors courses
- Early registration
- Extended library check-out privileges
- Special advising
- Notation on college transcript (to students who have maintained Crimson Scholar status for 90 credit hours*)
- Recognition in the commencement program (to students who have maintained Crimson Scholar status for 75 credit hours*)
- A lapel pin (to students who have maintained Crimson Scholars status for 24 credit hours*)

To be eligible for the Crimson Scholars Program, applicants must be degree seeking.

- Entering freshmen must have either: a minimum ACT standard composite score of 26; or a minimum ACT standard composite score of 24 or 25 and a 3.75 or better high school GPA; or a minimum SAT score of 1090 and a 3.75 or better high school GPA
- Currently enrolled students must have a minimum cumulative GPA of 3.5 for 3 or more credits* at NMSU.
- Transfer students must have a 3.5 cumulative GPA from their previous institution(s) or complete 3 or more credits* at NMSU for eligibility.

* does not include I or audit course designations at NMSU

To maintain Crimson Scholar status:

- Freshmen entering on an ACT score must maintain a cumulative GPA of 3.5 and complete three or more credits per semester to continue in the program.
- Sophomores, juniors, and seniors must maintain a minimum cumulative GPA of 3.5 and be currently enrolled in a total of 3 or more credits* per semester at NMSU or any NMSU community college to retain their Crimson Scholars status.
- Crimson Scholars whose GPA drops below the required cumulative 3.5 or drop below the three credit minimum will be dropped from the program. If in the following semester, the student’s cumulative GPA and credits again meet the minimum requirement, the student will automatically be reinstated.

* does not include I or audit course designations at NMSU

In recognition of the student’s academic achievement, a statement designating "Crimson Scholar Graduate" is placed on the student’s transcript after completion of 80 credit hours* as a Crimson Scholar and a minimum cumulative GPA of 3.5. To be designated in the commencement program as a Crimson Scholar graduate, a student must complete a minimum of 75 credit hours* as a Crimson Scholar and must have a minimum cumulative GPA of 3.5. Students who complete 24 credit hours* as Crimson Scholars and have a minimum GPA of 3.5...
receive a lapel pin. Crimson Scholars are entitled to early registration and library
privileges. Additional information is available from the Crimson Scholars Office,
located in the Conroy Honors Center.
NOTE: Crimson Scholars interested in work-study positions must submit a yearly
Free Application for Federal Student Aid (FAFSA) and complete a financial aid
file with the NMSU Office of Financial Aid.

The Honors Living and Learning Community (HLLC)
The New Mexico State University Honors Living and Learning Community
(HLLC) is an educational initiative that links in-class and out-of-class learning
experiences for honors students. The goals of the Honors Living and Learning
Community are to: (1) supplement classroom learning experiences with co-
curricular programming; (2) foster the development of an honors community that
includes honors students, faculty, and staff; and (3) create a supportive environ-
ment for honors students. Above all, the Honors Living and Learning Community
aims to develop a small-college environment within the context of a large
research university, thus giving students the benefits of both. Honors students,
especially first-year students, are encouraged to take advantage of this special
opportunity. The Honors Living and Learning Community is comprised of three
components:

The Conroy Honors Center — is the academic home of the Honors Col-
lege. This historic building was designed by the renowned southwestern archi-
tect Henry C. Trost and built in 1908 to house the campus chapter of the YMCA.
The Conroy Center houses the administrative offices of the program along with
three seminar rooms, a student commons area, a kitchen, and a computer lab.

The Honors Residence Hall — is located in Monagle Hall and is the focus
of NMSU’s vibrant honors community. It is a place where honors students live
among a community of excellent students with outstanding academic records
and who are interested in getting the most out of the academic opportunities
offered to them at a large research institution. It also hosts many social and
extracurricular academic activities.

The Honors Residence Hall is equipped with two electronic classrooms,
where many introductory honors courses are taught. The honors faculty partici-
pate in residence hall programming and frequently attend residence hall floor
meetings with students. The Honors Residence Hall is open to both men and
women of any university class standing.

The Crimson Scholar Residential Mentors Program — Crimson Scholar
Residential Mentors live in the Honors Residence Hall and promote academic
success of the entire student body by tutoring and mentoring residence hall
students. Mentors also foster a sense of community throughout the Honors Resi-
dence Hall by creating personal affiliations, engaging in scholarly conversation,
and lending academic support to their peers.
Associate of Arts
Associate of Science
Associate: Applied Business
Associate: Applied Science
Associate: Art and Graphic Design
Associate: Business Office Technology
Associate: Criminal Justice
Associate: 3-D Computer Animation
Associate: Diagnostic Medical Sonography
Associate: Early Childhood Education
Associate: Education
Associate: Fine Arts
Associate: General Studies
Associate: Heritage Interpretation
Associate: Medical Laboratory Technology
Associate: Nursing
Associate: Occupational Business
Associate: Pre-Business
Associate: Pre-Engineering
Associate: Radiologic Technology
Associate: Social Services
Associate: Water Utility - Operation

NMSU’s Community College campuses make two years of college education available to students in their home environment. The community colleges provide a high quality program of education for all full-time and part-time students; provide occupational education; and provide noncredit community education courses.

Degree completion programs have been established at all NMSU Community College campuses. Students who live outside the Las Cruces campus area may pursue a degree in Grants, Alamogordo or Carlsbad. The NMSU “2+2” program allows students to complete their first two years at a community college, then transfer to the Las Cruces campus and complete the last two years. Las Cruces campus courses are also available through distance education so students may complete their degree without ever having to relocate.

A student attending any NMSU Community College campus is enrolled as a New Mexico State University student and may change campuses without completing additional admission procedures.

Associate Degree Graduation Requirements

Associate degree programs are offered at the NMSU Community College campuses for those desiring specialized training for employment. Community, junior, and technical college transfer students may be admitted and classified on the basis of acceptable credits at two-year institutions. The Associate in pre-business degree, administered by the College of Business, is available to NMSU Community College campus students completing the requirements as outlined in the “College of Business” section of this catalog. Most courses required for the Associate in Applied Science degree with options in electronics technology offered at the Carlsbad, Grants, and Alamogordo campuses meet lower division requirements for the baccalaureate degree program in Electronics Engineering Technology, which is offered on the Las Cruces campus through the College of Engineering. The Associate Degree in Pre-Engineering is administered through the College of Engineering.

Math requirements in some associate degree and certificate programs vary. ENGL 111G and all developmental studies courses in English, math, and reading must be completed with a grade of C or better. Please refer to your NMSU Community College campus catalog for details. The last 15 semester credits for an associate degree must be taken in residence at NMSU or one of the NMSU Community Colleges. Degree requirements remain in effect for six years. The designation, Meritorious Graduate, is awarded to the top 15 percent of the students receiving associate degrees within each college in any one academic year, provided 45 or more credits have been completed at NMSU and/or an NMSU Community College with computable grades.

Occupational Education (OE prefix) Courses

OE prefix courses may be applicable toward four-year degrees at New Mexico State University without special approval of the appropriate department head and college dean. The College of Agriculture and Home Economics, the College of Business, the College of Health and Social Services, and the College of Extended Learning will accept a number of OE prefix courses in certain degree programs. Contact the respective college’s advisor for detailed information.

ASSOCIATE DEGREE: Applied Business

The curriculum is designed for students who wish to prepare for entry-level positions. The required courses focus on the fundamentals of business operations giving special consideration to applied accounting practices, business law, economics, marketing, and management of human resources. A two-year associate degree is available. Students should refer to the appropriate NMSU Community College catalog for further information.

ASSOCIATE DEGREE: Applied Science

Curricula are designed to provide the educational skills and practical experiences necessary to enable a student to enter an occupational field as a skilled employee.

Options

The following Associate in Applied Science options are offered at the NMSU Community College campuses:

- **Alamogordo:** apprenticeship programs, biomedical electronics technology, electronics technology, fire science, information technology, paralegal studies, microcomputer technology, technical communication, web mastery
- **Carlsbad:** digital media technology; drafting and graphics technology; electronics technology; facilities maintenance technology; heating, air conditioning and refrigeration; management information systems, manufacturing technology; welding technology
- **Doña Ana:** apprenticeship programs (electrical, machinist); automation and manufacturing; automotive; computer and information technology; creative media; dental hygiene; digital graphics; drafting and design (architectural, civil/survey, mechanical drafting and solid modeling, pre-architecture); electronics (aerospace, biomedical, general); emergency medical services; fire investigations; fire science; health information technology; heating, ventilation, air conditioning and refrigeration; hospitality services; law enforcement technology; paralegal studies, microcomputer technology, technical communication, web mastery

For complete details, please refer to your NMSU Community College catalog.
(corrections, law enforcement); library science; paralegal studies; pre–hotel, restaurant and tourism management; public health; respiratory therapy; welding

- Grants: automotive technology; computer technology; electronics technology; web mastery; welding trades

Consult appropriate NMSU Community College campus advisor or catalog for option requirements.

ASSOCIATE OF ARTS DEGREE

This degree represents the completion of the first two years of most bachelor’s degree programs in the College of Arts and Sciences. Students following the Associate of Arts degree are advised to select courses that fulfill the General Education requirements for all bachelor’s degree programs at New Mexico State University.* It is recommended that students plan their elective courses to meet other requirements for their bachelor’s degree.

ASSOCIATE OF SCIENCE DEGREE

The Associate of Science degree represents the completion of the first two years of several bachelor’s degree programs related to the sciences. Students pursuing the Associate of Science degree are advised to select courses that fulfill requirements for specific programs at New Mexico State University and that transfer to other four-year institutions. Many of the courses are General Education (G) courses.* Students interested in the sciences (e.g., biology or chemistry) or fields related to the sciences (e.g., agriculture or health sciences) are encouraged to follow this degree plan.

* General Education requirements were under revision at the time of publication. Students must check with their academic advisor for current requirements and lists of specific courses that meet these requirements.

ASSOCIATE DEGREE: 3D Computer Animation

This degree is designed to give students practical training and experience in 3D computer animation.

ASSOCIATE DEGREE: Art and Graphic Design

This Art and Computer Graphics program leads to the associate degree that includes the General Education requirements and is designed to facilitate transfer of credit for those seeking a bachelor’s degree in art at NMSU-Las Cruces.

ASSOCIATE DEGREE: Business Office Technology

The curriculum is designed to develop proficiency in the skills needed to prepare the student for varied office careers. Coursework leading to this degree is offered only at the NMSU Community College campuses. Students should refer to the NMSU Community College catalogs for information and specific requirements. Several of the courses can be transferred into a baccalaureate program in Business Education at NMSU-Las Cruces.

ASSOCIATE DEGREE: Criminal Justice

This curriculum introduces the three facets of the criminal justice system (e.g., police, corrections, courts)

ASSOCIATE DEGREE: Diagnostic Medical Sonography

Sonography is an allied health specialty that uses high-frequency sound waves (ultrasound) to image many structures in the body. Graduates of the program are eligible to take national registry examinations by the American Registry of Diagnostic Medical Sonography (ARDMS) and/or the American Registry of Radiologic Technologists–Sonography Credential.

The DACC Diagnostic Medical Sonography program is fully accredited by the Commission on Accreditation of Allied Health Education Programs (CAA-HEP).

ASSOCIATE DEGREE: Early Childhood Education

This degree is designed to prepare highly qualified students to be professional teachers, assistant teachers, or family day care providers for children ages birth through eight years.

ASSOCIATE DEGREE: Education

This curriculum is designed to facilitate articulation and transfer of credit for those seeking the baccalaureate degree in the College of Education at NMSU-Las Cruces.

ASSOCIATE DEGREE: Fine Arts

This curriculum is designed to prepare students to work as professional artists or to transfer to NMSU-Las Cruces to complete a Bachelor of Arts (BA) or Bachelor of Fine Arts (BFA).

ASSOCIATE DEGREE: General Studies

This degree represents the completion of the first two years of most bachelor degree programs in the College of Arts and Sciences. Undecided students are advised to follow this degree plan because it is flexible and will help structure their selection of classes until they decide on a major.

ASSOCIATE DEGREE: Heritage Interpretation

This degree is designed to prepare students for service as interpreters and technicians or for any field in which knowledge of the cultural and natural heritage of the southwest would be useful.

ASSOCIATE DEGREE: Nursing

The Associate Degree in Nursing is offered at NMSU-Alamogordo, Carlsbad, and Doña Ana Community College campuses. Refer to the appropriate NMSU Community College catalog for degree requirements.

ASSOCIATE DEGREE: Occupational Business

Students gain preparation for entry-level supervisory and management positions and for further study at the baccalaureate level. Four specialties are offered: general management, real estate, retail marketing and merchandising, and finance and banking. Programs can be customized to meet the specific needs of individuals.

Most courses can be applied toward either of two bachelor’s degree programs at NMSU: agricultural economics and agricultural business (offered by the College of Agriculture and Home Economics), or applied studies (offered by the College of Extended Learning).

ASSOCIATE DEGREE: Pre-Business

This curriculum provides the first two years of any four-year business degree offered at NMSU-Las Cruces.

ASSOCIATE DEGREE: Pre-Engineering

This curriculum is designed to facilitate the articulation and transfer of credit for students interested in pursuing a bachelor’s degree in engineering at NMSU-Las Cruces.

ASSOCIATE DEGREE: Radiologic Technology

The curriculum is designed to provide the knowledge and practical experiences necessary to perform the duties of a qualified medical radiologic technologist. The program consists of four semesters and four summer sessions. It is conducted in cooperation with Memorial Medical Center, Las Cruces, Carlsbad Medical Center, Carlsbad, and Gila Regional Medical Center, Silver City, El Paso, and Holloman Air Force Base. Successful completion of the associate degree will entitle the student to challenge the American Registry of Radiologic Technologists for certification. Coursework leading to this degree is offered only at NMSU-Doña Ana Community College.

NOTE: This is a limited enrollment program. In addition to meeting regular undergraduate admission requirements, students must fulfill specific requirements of the program. Interviews are required prior to final acceptance.

ASSOCIATE DEGREE: Social Services

This curriculum is designed to prepare students for entry-level positions in social services or community agencies as social service paraprofessionals.

ASSOCIATE DEGREE: Water Utility Operation

This curriculum is designed to provide the skills necessary to perform the tasks of operations, maintenance, supervision, and laboratory analyses in a water supply or wastewater treatment system. The educational skills reflect
those needed by the highest classification of certified operator, e.g., a Class IV operator in New Mexico. Coursework leading to this degree is offered only at the NMSU-Doña Ana Community College.

**ASSOCIATE OF ARTS: Heritage Interpretation**

This degree is designed to facilitate transfer of credit to a bachelor's degree program.

**Certificate Programs**

In addition to the regular degree programs offered by the NMSU Community College campuses, certificate programs in selected areas are offered. Students are advised to contact the NMSU Community College campus for information on available certificate programs.

**NMSU Community College Campus Information**

Information concerning NMSU Community College campus programs, class schedules, catalogs, registration, and other data may be obtained from the NMSU Community College campus administration.

Dr. Cheri Jimeno, President
NMSU-Alamogordo Community College
2400 N. Scenic Dr.
Alamogordo, New Mexico 88310
(575) 439-3696

Russell Hardy, President
NMSU-Carlsbad Community College
1500 University Drive
Carlsbad, New Mexico 88220
(575) 234-9210

Dr. Margie Huerta, President
NMSU-Doña Ana Community College
Box 30001, Dept. 3DA
Las Cruces, New Mexico 88003
(575) 527-7510

Felicia Casados, President
NMSU-Grants Community College
1500 Third Street
Grants, New Mexico 87020
(505) 287-6678
COURSE LISTINGS

Courses are titled in the following style:

ASTR 110G. Introduction to Astronomy 4 cr. (3+3P)

- Course number indicates the course number.
- Suffix (V) indicates a Viewing a Wider World course.
- Suffix (G) indicates a New Mexico Common Core course.
- Credits - The unit of university credit is the semester hour, which is the equivalent of one hour's recitation or a minimum of two hours of practice per week for one semester. The (3+3P) means that the class meets for 150 minutes per week for lecture and also requires 150 minutes per week of "laboratory" (practice, field work, or recitation).

In order to register for 300-level courses, a student must have met the basic academic skills requirements.

The letter N will be added as a suffix to the course number when the course credits are not applicable to the baccalaureate and specified associate degrees.

A E-AEROSPACE ENGINEERING

A E 339. Aerodynamics I 3 cr.
Fluid properties, conservation equations, incompressible 2-dimensional flow; Bernoulli's equation; similarity parameters; subsonic aerodynamics: lift and drag, analysis and design of airfoils. Prerequisite(s): ME 237. Corequisite(s): M E 328, C E 301.

A E 362. Orbital Mechanics and Space Environment 3 cr.
Dynamics of orbiting and non-orbiting bodies; orbit design and orbital maneuvers; space environment, including solar, magnetic, atmospheric and planetary phenomena. Prerequisites: MATH 392 and M E 237.

A E 363. Aerospace Structures 3 cr.
Advanced concepts of stress and strain, introduction to the analysis of aero structures, complex bending and torsion, thin walled sections and shells, computational techniques. Prerequisites: C E 301.

A E 364. Flight Dynamics and Controls 3 cr.
Fundamentals of airplane flight dynamics, static trim, and stability; spacecraft and missile six degree of freedom dynamics; attitude control of spacecraft. Prerequisites: MATH 392, M E 237.

A E 419. Propulsion 3 cr.
Propulsion systems, thermodynamic cycles, combustion, specific impulse; principles of gas turbines, jet engines, and rocket propulsion systems. Prerequisites: A E 439

A E 424. Aerospace Systems Engineering 3 cr.
Basic principles of top down systems engineering and current practice; preliminary and detailed design of aircraft and space vehicles, including requirement, subsystem interaction, and integration, tradeoffs, constraints and non-technical aspects. Prerequisites: A E 362, A E 363, A E 364, and A E 439.

A E 428. Aerospace Capstone Design 3 cr. (2P)
Team Project-analysis, design, hands-on build test, evaluate. Prerequisites: A E 424.

A E 439. Aerodynamics II 3 cr.
Principles of compressible flow, momentum and energy conservation; thermal properties of fluid; supersonic flow and shock waves; basics of supersonic aerodynamics. Prerequisites: A E 339, M E 240.

A E 447. Aerofluids Laboratory 3 cr. (2P)
Use of subsonic wind tunnels and other flow to study basic flow phenomena and methods of fluid measurement and visualization. Prerequisites: M E 345, A E 339, and A E 364.

A E-AGRICULTURAL ENGINEERING

A EN 151. Introduction to Agricultural Engineering 3 cr.
Historical development of computers and their effects on society as a whole and engineering in particular. Word processing, spreadsheets, C programming, and other applications on microcomputers. Satisfies General Education Computer Science requirement. Corequisite: MATH 105 or equivalent. Same as C E 151 and G EN 151.

A EN 335. Engineering for Biological Systems 3 cr.
A study of the engineering principles of life support systems for plants and animals. Prerequisites: MATH 192G and M E 240 or M E 346.

A EN 338. Ranch Equipment and Utilities 3 cr.
Engineering factors affecting the selection and operation of ranch equipment. Design of fencing systems, pipelines, and waste handling facilities.

A EN 372. Landscape Irrigation Design 3 cr. (2+3P)
Elementary design of trickle and sprinkler systems for landscape applications.

A EN 435. Small Building and Utilities Design 3 cr.
Design of small, single story buildings and service utilities. Prerequisite: C E 301.

A EN 440. Design Applications 3 cr.
Application of engineering course material to agricultural hardware or systems design. Prerequisite: consent of instructor.

A EN 459. Design of Water Wells/Pumping Systems 3 cr.
Design of water wells; selection and specification of pumps and power units. Prerequisite: C E 382.

A EN 475. Soil and Water Conservation 3 cr.
Types and extent of erosion. Design and operation of structural and vegetative systems to control erosion. Elements of hydrology. Prerequisite: C E 331. Corequisite: C E 382 or consent of instructor.

A EN 478. Irrigation and Drainage Engineering 3 cr. (2+3P)
Design and operation of surface and sprinkler irrigation systems; pumping and conveyances; introduction to principles and practices of drainage systems and wells. Prerequisite: C E 382 or consent of instructor.

A EN 498. Special Topics 1-3 cr.
Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

A S- ARTS AND SCIENCES

A S 100. Insights: University Experience for Future Careers 1 cr.
Research and investigation of college majors and career opportunities.
ACCT 353. Cost Accounting 3 cr.
ACCT 305V. Accountability for Quality in Organizations 3 cr.
ACCT 302. Financial Accounting II 3 cr.
ACCT 301. Financial Accounting I 3 cr.
ACCT 251. Management Accounting 3 cr.
ACCT 210. A Survey of Accounting 3 cr.
ACCT- ACCOUNTING

ACCT 200. Interdisciplinary Topics 1-4 cr.
An interdisciplinary approach to subject matter cutting across departmental fields. Specific subjects to be announced in the Schedule of Classes.

ACCT 300. Interdisciplinary Topics 1-3 cr.
An interdisciplinary approach to subject matter cutting across departmental fields. Specific subjects to be announced in the Schedule of Classes. Graded S/U.

ACCT 301. Arts and Sciences Advising Seminar 1 cr.
Selected students, second semester juniors or seniors, will spend supervised time in the Advising Center advising and evaluating the work of the center. May be repeated for a maximum of 3 credits. Prerequisite: consent of instructor. Graded S/U.

ACCT 305. Prehealth Internship 1 cr. (30P)
Placement with an office of a health professional. May be repeated for a maximum of 3 credits. Prerequisites: consent of instructor, minimum junior standing, 2.5 GPA. Student must be registered with the Prehealth Advisory Committee and must have a minimum of 15 credits completed at NMSU. Graded S/U.

ACCT 450. Interdisciplinary Topics 1-3 cr.
An interdisciplinary approach to subject matter cutting across departmental fields. Specific subjects to be announced in the Schedule of Classes.

ACCT 498. Research Projects 1-3 cr.
Students conduct research projects on behalf of the College of Arts and Sciences. Prerequisite: 2.5 GPA in 28 or more graded NMSU credits. May be repeated for a maximum of 6 credits.

ACCT 403. Federal Taxation I 3 cr.
ACCT 452. Accounting Systems 3 cr.
ACCT 454. Accounting Theory 3 cr.
ACCT 455. Federal Taxation II 3 cr.
ACCT 457. Mergers, Acquisitions, and Partnerships 3 cr.
ACCT 458. Accounting for Decision Making and Control 3 cr.
ACCT 459. Ethics and Professionalism in Accounting 3 cr.
ACCT 454. Accounting for Decision Making and Control 3 cr.
ACCT 455. Federal Taxation II 3 cr.
ACCT 456. Federal Taxation III 3 cr.
ACCT 457. Mergers, Acquisitions, and Partnerships 3 cr.
ACCT 458. Accounting for Decision Making and Control 3 cr.
ACCT 459. Ethics and Professionalism in Accounting 3 cr.

AERO- AEROSPACE STUDIES

AERO 000. Air Force Leadership Laboratory 0-99 cr. (2P)
Progressive study and application of Air Force customs, courtesies, drill, ceremonies, military commands, and evaluating these skills. Cadets plan and control the military activities of the cadre corps, prepare and present briefings, motivate, and increase the performance of other cadets. Mandatory each semester for cadets pursuing a commission.

AERO 121. The Air Force Today I 1 cr. (1-2P)
Survey course on the USAF and AFROTC. Includes mission and organization of the Air Force, officerhood and professionalism, military customs and courtesies, as well as basic communication skills. Leadership Lab practicum, AERO 000 is included.

AERO 122. The Air Force Today II 1 cr. (1-2P)
Continuation of AERO 121, with emphasis on Air Force officer opportunities, group leadership problems, and further development of communication skills (oral and written). Includes Leadership Lab practicum, AERO 000.

AERO 221. The Air Force Way I 1 cr. (1-2P)
Topics include: Air Force heritage, Air Force leaders, an introduction to ethics and values, and an application of communication skills. Facilitates the transition from Air Force ROTC cadet to Air Force ROTC candidate. Includes Leadership Lab practicum, AERO CIOD.
AERO 222. The Air Force Way II 1 cr. (1+2P)
Continuation of AERO 221, including an introduction to leadership, quality Air Force, and continued application of communication skills. Includes Leadership Lab practicum, AERO 000.

AERO 301. Air Force Leadership and Management I 4 cr. (3-2P)
Study of the leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills required of an Air Force junior officer. Includes Leadership Lab practicum, AERO 000. Prerequisites: Completion of AERO 121/122 and 221/222, or permission of instructor.

AERO 302. Air Force Leadership and Management II 4 cr. (3-2P)
Continuation of AERO 301, with case studies used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts studied. Continued emphasis on developing communication skills. Includes Leadership Lab practicum, AERO 000. Prerequisites: Completion of AERO 121/122 and 221/222, or permission of instructor.

AERO 401. Preparation for Active Duty I 4 cr. (3-2P)
Examines the national security process, regional studies, and Air Force doctrine. Special topics focus on the military as a profession, officerhood, and civilian control of the military. Communication skills (oral and written) are refined. Includes Leadership Lab practicum, AERO 000. Prerequisites: Completion of AERO 121/122,221/222, and 301/302, or permission of instructor.

AERO 402. Preparation for Active Duty II 4 cr. (3-2P)
Continuation of AERO 401, concentrating on advanced leadership ethics, military justice, preparation for active duty, and current issues affecting military professionalism. Continued emphasis on communication skills necessary to succeed as a junior Air Force officer. Includes Leadership Lab practicum, AERO 000. Prerequisites: Completion of AERO 121/122,221/222,301/302, and 401 or permission of instructor.

AG E 200. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree. Consent of instructor required.

AG E 211. Freshman Orientation 1 cr.
Orientation to university life, including available resources and methods to promote success at NMSU. General exposure to fields in agriculture and home economics. Open to all freshmen and transfer students. Graded S/U.

AG E 250. Life with Microcomputers 3 cr. (2+2P)
Provides appreciation of the microcomputer in all areas of life. Applications to informational analysis in a wide variety of social, business, technological, and research situations are presented using presentation packages, web page design, electronic spreadsheets, and database systems. Emphasis is on fundamental understanding of how to apply software. Place of the computer in the large picture is emphasized.

AG E 300. Internship 1-4 cr.
Professional work experience under the supervision of a faculty member. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

AG E 305. Marketing and Pricing of Agricultural Products 3 cr.
Description of agricultural processes and functions; food production and consumption patterns; agricultural product prices; nature of competition in agricultural product markets; commodity markets. Prerequisites: ECON 201 or ECON 252. Same as MKTG 305.

AG E 311. Financial Futures Markets 3 cr.

AG E 315V. World Agriculture and Food Problems 3 cr.
Survey of food and agricultural issues in the U.S. and other countries. Covers: role of agriculture in economic development; trade in food and agricultural products; global food production, consumption, and marketing patterns; economics of technical change and food assistance; agriculture and the environment. Same as GEOG 315V.

AG E 325. Mastering Financial Agricultural Statements 3 cr.
Understanding, using, and constructing financial statements for agribusiness analysis. Learn how to produce integrated pro forma financial statements first on paper and then on a spreadsheet. Prepare and link revenue, cost, and financing input assumptions formulas to the financial outcomes on the spreadsheet. Prerequisite: AG E 250 or equivalent experience using spreadsheets. Same as ANSC 325.

AG E 330V. Organic Fall Vegetable Production 3 cr.
Planning, planting, and harvesting vegetable crops following federal guidelines for certified organic production. Emphasis on planting fall crops, harvesting summer crops, and planning summer and fall crops. Sale of produce through community-supported agriculture system. Distribution; financial management; and fertility, weed, disease, and insect-pest evaluation and management. Evaluation of crop production and financial performance from previous spring. Same as HORT 330V. Same as HON 430V with additional coursework for Honors students.

AG E 331V. Organic Spring Vegetable Production 3 cr.
Planning, planting, and harvesting vegetable crops following federal guidelines for certified organic production. Emphasis on planting spring and summer crops, harvesting spring crops, and planning summer and fall crops. Sale of produce through community-supported agriculture system. Distribution; financial management; and fertility, weed, disease, and insect-pest evaluation and management. Evaluation of crop production and financial performance from previous fall. Same as HORT 331V. Same as HON 430G with additional coursework for Honors students.

AG E 337V. Natural Resource Economics 3 cr.
Gain insight into important natural resource problems of our time. Apply economic principles to problems in the preservation, use, and development of agricultural, range, mineral, water, forestry, fishery, and environmental resources. Understand the use of cost-benefit analysis for government natural-resource projects, policies, and programs. Prerequisite: ECON 201 or ECON 252. Same as ECON 337V.

AG E 340. Agricultural Prices 3 cr.
Focuses on the analysis of supply and demand characteristics of commodities with particular attention to agricultural products. Pays special attention to empirical analysis. Includes institutional aspects of pricing, temporal and spatial price relationships, price forecasting, and the economic consequences of pricing decisions. Prerequisite(s): ECON 252.

AG E 370. Current Issues in Food and Agriculture 3 cr.
Course will consist of analysis and evaluation of current agricultural issues such as animal welfare/rights, water rights, sustainable agriculture, saving the family farm, food safety, foreign agricultural assistance, and others. Alternative perspectives on the issues and policy implications will be discussed.

AG E 380. Agricultural Economics Survey 3 cr.
Survey of businesses and industries involved with agriculture, farming and ranching, environmental and resource concerns. Field trip over spring break. Prerequisite: junior or above standing. Variable fee. Graded S/U.

AG E 384V. Water Resource Economics 3 cr.
Use of economic principles to evaluate current and emerging issues in water resources. Applications focus on use of economic methods of analysis to current policy decisions surrounding agricultural, municipal, industrial, and environmental uses of water. Prerequisite: AG E 100 or ECON 252. Same as ECON 384V.

AG E 385. Applied Production Economics 3 cr.
Analysis of economic principles of agricultural production and planning, emphasizing marginal principles. Practical application in budgeting and analyzing profit maximizing agricultural-production strategies. Prerequisite: ECON 252.

AG E 400. Seminar 1 cr.
Current topics and cases in the agribusiness literature stressing rigorous qualitative analysis of current problems and policy issues. Prerequisite: junior standing or above. Graded S/U.
AG E 406. The Economics of Sports 3 cr.
Applying the tools of economic analysis to a particular industry and gaining
an in-depth knowledge of the interaction of professional sports teams and
leagues with the economy and society. Same as ECON 406.

AG E 420. Special Problems 1-3 cr.
Special problems in agricultural economics or agricultural business of par-
ticular interest to the individual student. Maximum of 3 credits per semes-
ter. No more than 6 credits toward degree. Consent of instructor required.

Description and application of techniques and principles of financial man-
agement to problem situations faced by agricultural businesses, including
financial statement development and analysis, capital budgeting, sources
and costs of capital. Prerequisite: ECON 252G and ACCT 252G.

AG E 440. Ranch Economics 3 cr.
Economic principles related to western ranch business. Business man-
agement, economic characteristics of ranches, ranch land problems and
values, and economics of rangeland use. Prerequisite: ECON 2010 or
ECON 252G.

AG E 445V. Agricultural Policy 3 cr.
Historical and cultural background of food and agricultural policy in the
United States. Analysis of food and agricultural problems, policy-making
and implementation. Economic evaluation of specific U.S. food and agricul-
tural policy instruments, their domestic and international impacts. Prereq-
quisites: ECON 251G and ECON 252G.

AG E 450. Advanced Microcomputer Applications in Agriculture 3 cr. (2+2P)
An advanced course in electronic spreadsheets and the concepts and
tools of database management emphasizing agricultural application. Same
as AGEC 550 with additional work for graduate credit. Cannot receive
credit for both AG E 450 and AECG 550. Prerequisite: AG E 250 or consent of
instructor.

Applications course in which self-managed teams develop and present
marketing plans for agribusiness firms. Emphasis on integrating the mar-
keting mix, particularly promotional elements. Prerequisites: AG E 305 or
MKTG 305 or consent of instructor. Same as MKTG 451.

AG E 452. Food and Agricultural Products Marketing Research Techniques and
Written and Oral Presentation Skill 3 cr.
This course focuses on learning marketing research methods applicable
to developing new food and agricultural products and repositioning existing
products for new markets. Students will be required to prepare precise
written and oral marketing plans to industry standards and will have
opportunities to present written and oral plans at national competitions.
Prerequisite(s): AG E 451 or MKTG 451.

AG E 456. Agribusiness Management 3 cr.
Integration of production, marketing, accounting, finance, agricultural pol-
icy, human behavior, and business environment concepts in management
of agricultural businesses using a decision case approach. Prerequisites:
Senior standing. Main campus only.

AG E 470. Rural Appraisal 3 cr. (2+2P)
This course addresses issues influencing the value of real estate with
some emphasis upon rural properties. Topics include courthouse records,
property taxes, appraisal methodology, expert courtroom testimony,
condemnation, and legal issues. Students will take field trips and write
appraisals. Course material is relevant to students in Finance, Accounting,
and Pre-Law, as well as Agriculture. Accredited for hours to apply to both
pre-licensing and continuing education requirements of the New Mexico
Real Estate Commission for both Appraisers and Real Estate Brokers.
Prerequisite(s): Junior or above standing. Crosslisted with: FIN 470

Emphasis on integrating natural and social sciences, analytic methods,
and critical reasoning skills to evaluate water resource policy and man-
agement issues. Extensive use of data and numerical applications applied
to a variety of water resource topics. Familiarity with MS Excel or similar
software is desirable. Prerequisite: junior or above standing.

AG E 491. Linear Programming Methods 1 cr.
Methods, techniques, and uses of linear and quadratic programming appli-
cations in agricultural economics.

AG E 499. Senior Thesis 3 cr.
Develop a thesis project with a faculty advisor. The senior thesis requires
students to work creatively to apply business and economic principles to
address a problem of concern. Prerequisites: consent of department head
and have senior standing. Restricted to AEAB majors.

AGHE- AGRICULTURE & HOME ECONOMICS

AGHE 100. Rodeo Production and Skills 2 cr.
A study of rodeo activities including history, organization, promotion,
organization, animal welfare, judging, and rule book interpretation. Skill in
all standard events will be emphasized with special attention to student
needs.

AGHE 111. Freshmen Orientation 1 cr.
Orientation to University life, including the understanding and utilization
of resources that promote University success. Designed to promote success
in achieving a career objective and perseverance for degree completion.
Promotes a recognition of changes required in moving from high school to
the University. Eight weeks in length, required for all freshmen in the Col-
lege of Agriculture and Home Economics.

AGHE 112. Seminar for College Success 1 cr.
Designed to help students explore goals, get turned on to learning, and
achieve academic success. Promotes acquisition of skills such as reading,
writing, note-taking, studying, listening and communication.

AGHE 305. Advanced Leadership and Communication in Agricultural Sciences 1-3 cr.
Theory and application of advanced communication techniques, focusing
on public speaking and public relations, are emphasized in this course
for current and potential college ambassadors. Prerequisite: consent of
instructor. May be repeated to a maximum of 8 credits.

AGRO- AGRONY

AGRO 1006. Introductory Plant Science 4 cr. (3-2P)
Introduction to the physical, biological, and chemical principles underlying
plant growth and development in managed ecosystems. In the laboratory
portion of the class, students perform experiments demonstrating the prin-
ciples covered in lecture. The course uses economic plants and agricultur-
ally relevant ecosystems to demonstrate basic principles. Appropriate for
non-science majors. Same as AGRO 100.

AGRO 111. Freshmen Orientation 1 cr.
Orientation to university life, including available resources and methods to
promote success at NMSU. General exposure to fields in agriculture and
home economics. Open to all freshmen and transfer students. Graded S/U.

AGRO 200. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes.
Maximum of 4 credits per semester. No more than 9 credits toward a
degree.

AGRO 250. Plant Propagation 3 cr. (2+2P)
Practical methods of propagating horticultural plants by seed, cuttings, lay-
ering, grafting, division and tissue culture. Examination of relevant physi-
ological processes involved with successful plant propagation techniques.
Crosslisted with HORT 250.

AGRO 257. Introduction to Meteorology 3 cr. (2-3P)
Basic meteorological processes. Atmospheric structure and circulation,
radiation, fronts, pressure systems, precipitation mechanisms, forecasting,
weather maps, meteorologic instrumentation. Prerequisite: MATH 115.
Same as GEOG 257 and SOIL 257.

AGRO 300. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes.
Maximum of 4 credits per semester. No more than 9 credits toward a
degree.

AGRO 303V. Genetics and Society 3 cr.
Relates the science of genetics with social ramifications. Ways in which
genetics and evolution interact with social, political, and economic issues.
Includes genetic engineering, gene therapy, DNA finger-printing, ancient
DNA, plant and animal improvement, and future prospects. Students
required to formulate value judgments on contemporary biological issues
that will impact society. Restricted to: Main campus only.

AGRO 305. Principles of Genetics 3 cr.
Covers fundamental principles of reproduction, variation, and heredity in
plants and animals. Prerequisites: CHEM 111G, BIOL 111, and BIOL 190, or
BIOL 211. Same as ANSC 305, BIOL 305, and HORT 305.

AGRO 311. Introduction to Weed Science 4 cr.
Principles of weed science with emphasis on characteristics of invasive
plants, methods of integrated weed management, and current issues
impacting weed management. Identification of local weeds. Prerequisite:
junior standing or consent of instructor and CHEM 111G and either BIOL
190 or BIOL 211G. Same EPWS 311.
AGRO 340. Plant Tissue Culture Methods 3 cr. (2+3P)
Tissue culture methods in plant propagation and crop improvement, including culture of meristem-tips, anthers, embryos, callus, cells, protoplasts and regeneration of plants from cells. Prerequisites: BIOL 111G or BIOL 211G, and CHEM 111G or CHEM 112G, or consent of instructor. Same as HORT 340 and BIOL 340.

AGRO 357. Climatology 3 cr.
Elements and controls of climate. Energy and hydrologic cycles, general circulation, climate classification, distribution of climate types, microscale effects, applications. Prerequisites: MATH 120. Same as GEOS 357, SOIL 357.

AGRO 365. Principles of Crop Production 4 cr. (3+3P)
Basic principles of crop production including environmental and physiological factors limiting production, plant nutrition and soil science, soil-water management, cropping systems and management, pest management, and economic factors influencing crop production. Prerequisite(s): AGRO/HORT 100, CHEM 111G or equivalent and Math 120 or equivalent. Cross-listed with: HORT 365.

AGRO 377. Introduction to Turfgrass Management 4 cr. (3+3P)
Establishment and maintenance of turfgrass with emphasis on seeding methods, soil and water management, mowing, disease, insects and turfgrass varieties.

AGRO 391. Internship 1-6 cr.
Professional work experience under the joint supervision of the employer and a faculty member. A written report is required. No more than 6 credits toward a degree. Consent of instructor required. Graded: S/U. Crosslisted with: HORT 391 and SOIL 391.

AGRO 447. Seminar 1 cr.
Organization, preparation, and presentation of current topics in agronomy, horticulture, and soil science. Same as HORT 447 and SOIL 447.

AGRO 449. Special Problems 1-3 cr.
Research problem, experience training, or other special study approved by a faculty adviser. Maximum of 3 credits per semester and a grand total of 6 credits. Same as SOIL 449 and HORT 449.

AGRO 450. Special Topics 1-4 cr.
Specific subjects to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a total of 3 credits toward a degree.

AGRO 462. Plant Breeding 3 cr.
Principles and practices involved with the genetic improvement of plants. Prerequisites: ANSC/AGRO/BIOI/HORT 305. Same as HORT 462.

AGRO 471. Plant Mineral Nutrition 3 cr.
Basic and applied aspects of plant requirements for soil-derived minerals and the processes whereby minerals are acquired, absorbed, translocated, and utilized throughout the plant. Prerequisite: EPWS/BIOL 314, or concurrent enrollment, or consent of instructor. Same as HORT 471 and EPWS 471.

AGRO 483. Sustainable Production of Agronomic Crops 3 cr. (2+2P)
Characteristics and objectives of sustainable agricultural systems with application to the production, utilization, and improvement of cereal grain, fiber, forage and oilseed crops. Corequisites: AGRO 365 or HORT 365. Same as HORT 483.

AGRO 492. Diagnosing Plant Disorders 3 cr. (2+3P)
Systematic diagnosis of the physiological, pathological, and entomological causes of plant disorders. Prerequisites: EPWS 303 and EPWS 310. Same as EPWS 492 and HORT 492.

ANSC - ANIMAL SCIENCE

ANSC 100. Introductory Animal Science 3 cr.
Orientation and survey of livestock industry in the United States; introduction to feeding, breeding, management and will include areas of livestock selection, nutrition, reproductive physiology, animal ID and animal health. This lab is required for animal science majors. Pre/Co-requisite(s): ANSC 100.

ANSC 103. Introductory Horse Science 3 cr. (2+2P)
The light horse industry; breeds; introduction to feeding, breeding, marketing and management; handling and selecting horses for breeding and performance.

ANSC 106. Freshmen Orientation 1 cr.
Orientation to university life, including available resources and methods to promote success at NMSU. General exposure to fields in agriculture and home economics. Open to all freshmen and transfer students. Graded S/U.

ANSC 190. Western Equitation I 2 cr. (4P)
Basic principles of Western riding, including care and management of the riding horse, equitation equipment, and development of riding skills.

ANSC 191. English Equitation I 2 cr. (4P)
Basic principles of English riding, including care and management of the riding horse, equitation equipment, and development of riding skills on the flat.

ANSC 200. Introduction to Meat Animal Production 3 cr. (2+2P)
Production and utilization of beef cattle, sheep and swine; emphasis on feeding, breeding, management problems and marketing; selection of animals for breeding and market.

ANSC 201. Introduction to Genetics for Animal Production 3 cr.
Introduction to genetics and inheritance relative to livestock production. Introduction to procedures for collection and use of performance information in livestock improvement programs. Prerequisites: BIOL 111.

ANSC 220. Animal Science Career Development 1 cr.
Introduction to scientific disciplines and career options in animal-agriculture career skill development, including resume preparation, networking, importance of internships, and leadership experiences in animal agriculture.

ANSC 250. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 8 credits toward a degree.

ANSC 261. Introduction to Animal Metabolism 3 cr.
Principles underlying the mechanisms of animal metabolism as they relate to production, maintenance, and health of animals. Prerequisite: CHEM 111G.

ANSC 262. Introduction to Meat Science 3 cr. (2+3P)
Fundamental aspects of the red meat industry. Lecture topics and laboratory exercises include the nutrient value of meat, meat preservation, meat safety, muscle structure and contraction, slaughter and processing of beef, lamb, and pork, sausage manufacture, meat curing, meat cookery, and muscle and bone anatomy.

ANSC 265. Horse Evaluation 2 cr. (4P)
Selection and classification of horses.

Introduction to care and management of companion animals. Topics will include an understanding of common varieties of pets and their place within human cultures, domestication, breeding ethics, nutrition, management; and health care topics.

ANSC 288. Horse Fitting and Selling 3 cr.
Preparation of horses for sale; planning and conduct of auction sale; application of marketing principles relating to selling horses. Prerequisite: ANSC 103 or consent of instructor.

ANSC 289. Management of Equine Operations 3 cr. (1+4P)
Lecture topics address knowledge and skills needed to effectively manage the daily operations of an equine enterprise; practice lab hours provide training in the daily care and management of horses and equine facilities. Prerequisite: ANSC 103 or consent of instructor.

ANSC 290. Western Equitation II 2 cr. (4P)
Intermediate principles of Western riding, including reading horse behavior, limbering-up exercises, and developing riding skills. Introduction to rollbacks, turnarounds and stops. Prerequisite: consent of instructor.

ANSC 291. English Equitation II 2 cr. (4P)
Intermediate principles of English riding, including reading horse behavior, limbering-up exercises and developing riding skills. Introduction to turn on forehand, turn on haunches, cavalletts. Prerequisite: consent of instructor.

ANSC 295. Team Competition in Animal Science 1-2 cr.
Training in team competition in the animal science. May be repeated for a maximum of 6 credits.

ANSC 301. Animal and Carcass Evaluation 3 cr. (2+2P)
Determination of the market value of meat animals by relating live animal and carcass traits. Topics include the identification of economically important traits, grading, growth and development, wholesale and retail pricing, and futures and options markets.
ANSC 302. Therapeutic Horseback Riding I 3 cr.
Basic principles and understanding of horsemanship and therapeutic riding, including equipment, safety, how to be an effective volunteer, side walker, and horse handler. Consent of instructor required.

ANSC 303. Livestock, Meat and Wool Evaluation 4 cr. (3+2P)
Selection, classification, grading, and judging of livestock, meat, and wool.

ANSC 304. Feeds and Feeding 3 cr. (2+2P)
Digestibility of feeds, their nutritive values, grades, and classes, principles of ration formulation and computer ration formulations, and practical feeding of farm animals.

ANSC 305. Principles of Genetics
Same as AGRO 305, BIOL 305, HORT 305. 3 cr.

ANSC 306. Processed Meats 3 cr. (2+2P)
Composition, nutritive value, least-cost formulation, blending, curing, smoking and cooking of sausages.

ANSC 310. Exhibiting Livestock 2 cr. (1+2P)
Fitting and showing beef cattle, dairy cattle, sheep and swine. Prerequisite: Limited to AXED majors only. Graded S/U.

ANSC 314. Swine Production 3 cr. (2+2P)
Breeding, feeding, and care of swine. Prerequisite: ANSC 304.

ANSC 320. Applied Horsemanship 3 cr. (6P)
Basic principles, methods and philosophies of handling, breaking and training the two-year-old Western horse. Prerequisite: ANSC 290 and/or consent of instructor.

ANSC 321. Applied Horsemanship II 3 cr. (6P)
Continuation of ANSC 320. Further development of skills required to advance the training of the two-year-old Western horse. Emphasis will be placed on lateral work, lead changes, turn-arounds, obstacles, and making the horse accustomed to ranch and trail riding situations. Prerequisites: ANSC 320 or consent of instructor.

ANSC 325. Mastering Financial Agricultural Statements 3 cr.
Same as AG E 325.

ANSC 353. Advanced Livestock Evaluation 2 cr. (4P)
Advanced selection, classification and grading of livestock.

ANSC 354. Advanced Meats Evaluation 2 cr. (4P)
Advanced selection, classification and grading of meats.

ANSC 355. Advanced Horse Evaluation 2 cr. (4P)
Advanced selection and classification of horses.

ANSC 356. Meat Technology 3 cr.
Structure function and composition of muscles; factors influencing conversion of muscle to meat; buying, palatability and nutritive value of meat and meat products.

ANSC 370. Anatomy and Physiology of Farm Animals 4 cr. (3+2P)
Structure and function of the animal body. Includes studies of the horse, cow, sheep, pig, and comparisons with the human body. Prerequisites: CHEM 111G and BIOL 190 or 211G.

ANSC 382. Equitation Instructor Training 3 cr. (1+4P)
Practical training in developing skills required to be certified as a riding instructor for horsemanship/equitation. Topics include evaluating learning styles, developing lesson plans, preparing individual and group lessons, learning safety, and developing a teaching portfolio. Prerequisites: ANSC 103; and ANSC 289, ANSC 290, or ANSC 291.

ANSC 383. Equine Reproductive Management 3 cr. (1+4P)
Anatomy, physiology, and endocrinology of reproduction of the mare and stallion; training in modern reproductive techniques employed in the horse industry. Prerequisites: ANSC 103, ANSC 289, ANSC 290, and ANSC 291.

ANSC 390. Internship 1-3 cr.
Professional work experience under the joint supervision of the employer and a faculty member. A written report is required. No more than 3 credits toward a degree. Prerequisite: consent of instructor. Graded S/U.

ANSC 395. Team Competition II 1-2 cr.
Advanced training in team competition in the animal sciences. May be repeated for a maximum of 6 credits.

ANSC 402. Animal Science Seminar 1 cr.
Review of the current literature in animal sciences. Oral and written reports.

ANSC 414. Sheep and Wool Production 3 cr. (2+2P)
Nutrition, physiology and management of sheep. Wool grading, shearing, and disease control. Prerequisites: ANSC 304 and junior status.

ANSC 415. Horse Science and Management 3 cr. (2+2P)
Senior level course requiring students to apply basic knowledge acquired in the prerequisite courses to solve typical problems encountered in the horse industry. Specific topics include genetics and animal breeding, business and legal issues, reproduction, health, nutrition and exercise physiology. Prerequisites: ANSC 304 and ANSC 370 or concurrent registration.

ANSC 416. Beef Production 3 cr. (2+2P)
Breeding, nutrition, management and marketing of beef cattle. Prerequisites: ANSC 304 and ANSC 305 or concurrent registration.

ANSC 417. Dairy Production 3 cr. (2+2P)
Breeding, nutrition, physiology and management of dairy cattle. Prerequisites: ANSC 304 and ANSC 305 or concurrent registration.

ANSC 421. Physiology of Reproduction 3 cr. (2+2P)
Fertility and the role of hormones, nutrition, selection and management in the maintenance of high reproductive rate. Prerequisite: ANSC 370.

ANSC 422. Animal Nutrition 3 cr.
Nutrient utilization and measurement; nutrient requirements for the various body functions. Prerequisite: CHEM 211.

ANSC 423. Animal Breeding 3 cr. (2+2P)
Mating systems, and selection procedures; calculation of inbreeding coefficients, genetic relationships, and gene frequency. Prerequisite: ANSC 305.

ANSC 448. Problems 1-4 cr.
Individual investigation in a specific area of animal science. Maximum of 4 credits per semester. No more than 6 credits toward a degree.

ANSC 461. Toxicology I 3 cr.
Introduction to principles of toxicology. Prerequisite: BIOL 111G or BIOL 211G, and CHEM 345. Same as TOX 461.

ANSC 462. Parasitology 3 cr.
Same as EPWS 462.

ANSC 462 L. Parasitology Lab 1 cr.
Classification, biological effects, and management of animal parasites of man, domestic animals, and wildlife. One-hour lab is optional. Same as EPWS 462.

ANSC 471. International Range Livestock Management 3 cr.
Range livestock production and management with emphasis on international aspects integrated in a holistic sense. Same as RGSC 471.

ANSC 480. Environmental Physiology of Domestic Animals 3 cr.
Influence of environmental factors on physiological processes of domestic animals. Prerequisite: ANSC 370.

ANSC 484. Ruminant Nutrition 3 cr.
Energy, nitrogen, and mineral nutrition of ruminants with special emphasis on digestive physiology and metabolism of nonprotein nitrogen compounds. Prerequisite: ANSC 422.

ANSC 485. Advanced Animal Breeding 3 cr.
Population genetics, heritability, selection, gene x environment and gene x gene interactions, composite development, molecular genetic technology and manipulation. Prerequisite: ANSC 423 and E ST 311.

ANTH- ANTHROPOLOGY

ANTH 110. New World Prehistory 3 cr.
Survey of major prehistoric developments in North and South America from the first entry of people into the New World to the arrival of European settlers.

ANTH 115. Native Peoples of North America 3 cr.
General survey of the ethnology of selected native American groups.

ANTH 116. Native Peoples of the American Southwest 3 cr.
Introduction to the early history and culture of native people of the Southwest.

ANTH 118. Introduction to Historic Preservation 3 cr.
Introduction to historic preservation, its history, goals, methods, legal basis, and economic importance. Explores public role in decision-making. Community Colleges only.
ANTH 120G. Human Ancestors 3 cr.
Evolutionary history of the human species from its origin in the primate order, with primary emphasis on the evolution of humankind during the past three million years. Examination of the social lives of apes and consideration of similarities to and differences from them. Biological foundations of human behavior, emphasizing thought, movement, and interaction.

ANTH 125G. Introduction to World Cultures 3 cr.
Introductory survey of anthropological studies of human thought and behavior in different world cultures, covering social, cultural, economic, political, and religious practices and beliefs.

ANTH 130G. Human’s Place in Nature: Introduction to Biological Anthropology 3 cr.
This course uses scientific methods and principles to examine human evolutionary history and family tree relationships, as well as the biological foundations of human behavior. Through lectures, readings and laboratory assignments students are introduced to the history and development of modern evolutionary biology, molecular and population genetics, the primate and human fossil record and modern human biological diversity. By examining the social lives of apes and other primates, primitive and unique aspects of human behavior are identified and the lives of fossil ancestors are reconstructed.

ANTH 130GL. Human’s Place in Nature Laboratory 1 cr. (2P)
This one credit laboratory course uses scientific methods and principles to examine evidence for human evolutionary history and family tree relationships, primate ecology and behavior, and modern human diversity.

ANTH 201G. Introduction to Anthropology 3 cr.
Exploration of human origins and the development of cultural diversity. Topics include biological and cultural evolution, the structure and functions of social institutions, belief systems, language and culture, human-environmental relationships, methods of prehistoric and contemporary cultural analysis, and theories of culture.

ANTH 202G. Introduction to Archaeology and Physical Anthropology 3 cr.
Provides an introduction to the methods, theories, and results of two subfields of anthropology: archaeology and physical anthropology. Archaeology is the study of past human cultures. Physical anthropology is the study of human biology and evolution.

ANTH 203G. Introduction to Language and Cultural Anthropology 3 cr.
Provides an introduction to the methods, theories, and results of two subfields of anthropology: linguistics and cultural anthropology. Linguistics is the study of human language. Cultural anthropology is the study of the organizing principles of human beliefs and practices.

ANTH 205. Basic Methods in Archaeology 3 cr.
Examines the aims and methods of archaeology with particular emphasis on the nature of archaeological evidence and its interpretation. Community Colleges only.

ANTH 207. Elementary Special Topics 1-4 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

ANTH 301. Cultural Anthropology 3 cr.
Human concepts of culture and life processes.

ANTH 304. Contemporary SW Native Americans 3 cr.
Introduction to the contemporary Native American peoples of the Southwest. Emphasis on sociocultural change and persistence including present day socioeconomic status.

ANTH 305. Contemporary Native Americans 3 cr.
Introduction to contemporary native peoples and cultures of North America. Emphasis on sociocultural and socioeconomic history, sociocultural change and persistence, present day reservation life, and current social and economic goals.

ANTH 306V. Peoples of Latin America 3 cr.
Introduction to cultural patterns and diversity of Latin America with emphasis on indigenous groups, peasants, plantation workers, and urban residents throughout South America, the Caribbean, Mexico, and Central America.

ANTH 307. Peoples of Mexico and Guatemala 3 cr.
Ethnographic study of cultural groups in Mexico and Guatemala. Critical examination and discussion of a variety of ethnographies. Designed for ANTH and SOC majors.

ANTH 308. Peoples of the Southwest 3 cr.
Ethnographic study of cultural groups in the southwest. Critical examination and discussion of a variety of ethnographies. Designed for ANTH and SOC majors.

ANTH 312. The Ancient Maya 3 cr.
Archaeological evidence of culture change in the Maya civilizations of Mexico and Central America from 2000 BC to the Spanish Conquest.

ANTH 313. Ancient Mexico 3 cr.
Archaeological evidence of culture change among the Aztecs, Zapotecas, and their predecessors in Central Mexico and Oaxaca from 7,000 BC to the Spanish Conquest.

ANTH 315. Introduction to Archaeology 3 cr.
Concepts and methods for study of prehistoric cultures; history of archaeological research.

ANTH 316. Archaeology of the American Southwest 3 cr.
Introduction to the prehistoric peoples of the North American Southwest, a historical approach emphasizing the rise of method and theory in the region.

ANTH 318. Historical Archaeology 3 cr.
Method and theory of the archaeological of historical periods.

ANTH 320. Anthropological Linguistics 3 cr.
The study of language and culture with particular emphasis on the cultural factors in the communication process.

ANTH 330V. Introduction to Religious Studies 3 cr.
Provides an overview of old and new methods and theories for the study of religion. Exposure to the ways groups of people in diverse cultural systems construct and change their religious traditions to serve practical and meaningful ends. Same as SOC 330V and HIST 330V.

ANTH 334. Anthropology of Art Traditions 3 cr.
Cross-cultural survey of art traditions asking the following: Why do people make art? What meanings do art traditions convey? What are the relationships between art traditions, artists, and their societies ANTH 335. History of Christianity 3 cr. Same as SOC 335 and HIST 335.

ANTH 335. History of Christianity 3 cr.
Explores perceptions about Jesus, the changing nature and role of the Bible, especially the new testament, interactions of religion and government, issues of faith and culture, and development of modern Christianity. Same as HIST 335 and SOC 335.

ANTH 336. Drugs, Culture and Society 3 cr.
Historical cross-cultural survey of human’s experiences with psychoactive substances, including the use of these substances for spiritual purposes as well as their relationship to social problems.

ANTH 345. Introduction to Museology 3 cr.
Museum philosophy, history, administration, and collection management. Emphasis on cataloging, care, and exhibition, as well as ethics and public responsibility.

ANTH 350. Anthropological Theory 3 cr.
Historic and contemporary thought.

ANTH 355. Physical Anthropology 3 cr.
An introduction to primate behavior, human evolution, and physical variation in modern human populations.

ANTH 357V. Medical Anthropology 3 cr.
Evolutionary, epidemiological, and cross-cultural perspectives on disease, curing, and health care systems.

ANTH 360V. Food and Culture Around the World 3 cr.
Study of the interaction between food and human culture from an anthropological perspective. Examines the traditional role of food in local economies, social relations, and identity around the world. Also examines the impact of globalization on traditional food systems and cultures.

ANTH 361V. Social Issues in the Rural Americas 3 cr.
Discussion of major social issues in the rural United States and Latin America. Topics include social history, cultural groups, land tenure, irrigation, government policy, markets, and agricultural labor. Same as SOC 361V.

ANTH 362. Environmental Anthropology 3 cr.
This course examines ecology and current environmental studies from an anthropological point of view. The class focuses on how cultural values mediate environmental management. The class will cover topics such as the theoretical foundations of ecological anthropology, large scale development, biodiversity conservation, sustainable environmental management, indigenous groups, consumption and globalization.

ANTH 370. Human Osteology and Forensic Anthropology 3 cr.
An introduction to the human skeleton and to forensic anthropology.

ANTH 378. Introduction to Lab Methods in Archaeology 3 cr.
An introduction to the human skeleton and to forensic anthropology.

ANTH 387. Field work in Latin America 3-12 cr.
Archaeological field methods in Latin America including in-field lab analysis. Prerequisite: consent of instructor. May not be taken S/U.
ANTH 389. Intermediate Field Session 2-6 cr.
Training in archaeological field methods, including excavations of prehistoric sites, record keeping, mapping, and analysis of data. Prerequisite: consent of instructor.

ANTH 389. Archaeological Mapping 3-6 cr.
Techniques for mapping archaeological sites and recording spatial distributions of archaeological data using a variety of surveying equipment and computer mapping software.

ANTH 388. Intermediate Historical Field Archaeology 3-6 cr.
Training in historical archaeological field methods, including excavation, record keeping, mapping, historic research, and analysis of data. Prerequisite: consent of instructor.

ANTH 401. Ethnography Seminar 3 cr.
A literature review of ethnographic field research, data gathering, and analysis. A wide variety of anthropological publications will be critically examined and discussed. Designed for ANTH and SOC majors.

ANTH 405. Native Cultures of North America 3 cr.
Description and analysis of the Native peoples north of Mexico.

ANTH 406. Introduction to Anthropological Practice 3 cr.
Capstone course for seniors designed to allow students to synthesize the anthropological knowledge they have acquired and connect theory and application in preparation for entry into a career. Among other things, students are required to write a paper in one of the subdisciplines.

ANTH 414. The Archaeology of Religion 3 cr.
Exploration of the methods and theories used by archaeologists to study prehistoric religion.

ANTH 419. Topics in Prehistoric Archaeology 3 cr.
Specific subjects in prehistoric archaeology as announced in the Schedule of Classes. Prerequisite: junior or senior standing. May be repeated for a maximum of 6 credits.

ANTH 431. Nutritional Anthropology 3 cr.
Evolutionary and cross-cultural perspective on human nutrition.

ANTH 432. Anthropology of Religion 3 cr.
Cross-cultural overview of religious beliefs and religious changes. Topics include shamanism, ethnomedicine, revitalization movements, and women's roles in spiritual life.

ANTH 433. Women, Gender, and Culture 3 cr.
Survey of the history of ideas about women and gender in the discipline of anthropology and a comparison of gender roles, relations, and ideologies across a range of cultures. Same as WS 433.

ANTH 434. Human Evolution 3 cr.
Overview of human biological evolution from the emergence of Miocene apes to modern human diaspora. Prerequisite: ANTH 355 or consent of instructor.

ANTH 434 L. Human Evolution Laboratory 1 cr. (1P)
Laboratory in human evolution, includes exercises and activities to learn the human fossil record. Corequisite: ANTH 434. Prerequisite: ANTH 355 or consent of instructor. Crosslisted with BIOL 434 L.

ANTH 449. Directed Reading 1-3 cr.
Comprehensive reading on selected topics. Prerequisite: upper division anthropology majors with consent of instructor. May be repeated for a maximum of 6 credits.

ANTH 449 H. Directed Reading Honors 1-3 cr.
Same as ANTH 449. Additional work to be arranged. May be repeated for a maximum of 6 credits.

ANTH 451. Practical Forensic Anthropology 1 cr. (3P)
Advanced laboratory exercises in identification of human skeletal remains. May be repeated for a maximum of 3 credits. Prerequisite: ANTH 430 or ANTH 530.

ANTH 452. Practical Fauna Analysis 1 cr.
Advanced laboratory exercises in the identification of animal bone recovered from paleontological and archaeological contexts. Prerequisite: consent of instructor. May be repeated for a maximum of 3 credits.

ANTH 455. Federal Indian Policy 3 cr.
Federal Indian policy and its impact on Native Americans. This course will provide basic understanding of how federal Indian policy impacts almost all activities and situations with Native Americans. Course will also look at issues such as sovereignty and how it impacts most interactions with tribal groups.

ANTH 458. Anthropology of Reproduction 3 cr.
Human life cycle is studied from biological, evolutionary, cross-species, and cross-cultural perspectives. Coverage of pregnancy, birth, infancy, childhood, puberty, adulthood, menopause, aging, senescence, and death. Prerequisite: ANTH 201G or consent of instructor.

ANTH 459. Peru: From Incas to Inca Kola 3 cr.
Explores issues of cultural and national identity in Peru from the Incas to the present, focusing on the modern period. Themes include indigenous resistance and adaptation to colonial rule, nationalism, militarism, terrorism, globalization, and the drug trade. Same as ANTH 459 and HIST 459.

ANTH 467. Archaeology of the American Southwest 3 cr.
Description and analysis of prehistoric archaeology of the American Southwest including paleo-environmental reconstruction, culture change, and relations with contemporary cultures. Prerequisite: ANTH 315.

ANTH 472. Primates Behavior and Ecology 3 cr.
Survey of the social behavior and ecology of nonhuman primates.

ANTH 473. Primates Adaptation and Evolution 3 cr.
Survey of the adaptations and evolutionary history of nonhuman primates. Prerequisite: ANTH 355 or consent of instructor.

ANTH 473 L. Primate Evolution Laboratory 1 cr. (1P)
Laboratory with exercises on non-human primate adaptation and evolution.

ANTH 474. Human Osteology 3 cr.
A survey of the functional, developmental, and evolutionary biology of the human skeleton. Identifying bones and teeth from hands-on experience with skeletal and dental material. Provides a foundation for human evolutionary studies, bioarchaeology and forensic anthropology. Prerequisite: ANTH 355, 370 or equivalent.

ANTH 474 L. Human Osteology Lab 1 cr. (1P)
Laboratory for ANTH 474. Experiences and activities related to identifying teeth and bones of the human skeleton. Prerequisites: ANTH 355, 370 or equivalent.

ANTH 475. Bioarchaeology and Forensic Anthropology 3 cr.
An examination of human skeletal remains at the level of the population (bioarchaeology) and the individual (forensic anthropology). Introduction to methods used for determination of age, sex, and biological affinity and identification of pathological conditions. Principles of analysis in prehistoric demography and epidemiology will be discussed. Prerequisite: ANTH 474 or consent of instructor.

ANTH 477. Faunal Analysis 3 cr.
Detailed study and analysis of taphonomic processes affecting animal bone recovered from archaeological and paleontological contexts. Prerequisite: either ANTH 315, ANTH 355, or BIOL 330.

ANTH 485. Field Experience 1-3 cr.
Archaeological or archaeological field work experience in private, state and federal agencies. Must spend 30 hours in a field setting per credit hour earned. Prerequisite: complete 12 ANTH credits and consent of instructor. May be repeated for a maximum of 6 credits.

ANTH 488. Advanced Field Session 1-6 cr.
Archaeological field methods, including excavations of prehistoric sites, record keeping, mapping, and analysis of data. Prerequisites: previous field experience and consent of instructor.

ANTH 497. Special Topics: Dental Anthropology 1-5 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: junior or above standing. May be repeated for a maximum of 12 credits.

ARAB - ARABIC

ARAB 111. Elementary Arabic I 4 cr.
Arabic language for beginners.

ARAB 112. Elementary Arabic II 4 cr.
Arabic language for beginners. Prerequisite: C or better in ARAB 111.

ARAB 211. Intermediate Arabic I 3 cr.
Speaking, reading and writing. Prerequisite: C or better in ARAB 112.

ARAB 212. Intermediate Arabic II 3 cr.
Speaking, reading and writing. Prerequisite: C or better in ARAB 211.
ARCT - ARCHITECTURE

ARCT 204. Architectural Design Studio I 5 cr. (1+8P)
Enhancement of general graphic communication skills. Strengthens fundamental design by addressing issues of conceptual design, structural order, and application of three-dimensional processes to architectural graphic expression. 2-D and 3-D design and presentation techniques. Studio/critique-based with considerable number of outside assignment/hours required. Prerequisite: ARCT 104.

ARCT 210. Architectural Delineation I 3 cr. (2+2P)
Introduction to visual literacy, architectural graphic communication, & basic analytical skills. Architectural concepts primarily explored through the application of technical drawing, descriptive geometry, & material manipulation; primarily black & white media.

ARCT 211. Architectural History I 3 cr. (2+2P)
A survey of the development of world architecture from the ancient era to the advent of the enlightenment in Europe. Major emphasis is on the visual, intellectual, cultural and technological aspects of the ancient and indigenous cultures/classical/pre-modern world. Community Colleges only.

ART - ART

ART 150. Drawing I 3 cr. (2+4P)
Introduction to the skill of seeing through exercises that emphasize careful drawing from the still life and utilize a range of drawing materials and techniques. Outside assignments required.

ART 151. Drawing II 3 cr. (2+4P)
Continue emphasis on drawing from observation by focusing on still life and other subject matter. Covers a range of materials, techniques and concepts. Outside assignments. Prerequisites: ART 150 and ART 155 or consent of instructor. Restricted to majors.

ART 152. 2-D Fundamentals 3 cr.
Introduction to two-dimensional space emphasizing visual elements and design principles as they apply to composition. A variety of materials are used in the studio projects and sketchbook exercises. Developing knowledge in vocabulary, color theory and skill in translating ideas into design are encouraged.

ART 156. 3-D Fundamentals 3 cr.
Compositional organization of three-dimensional space explored through a broad range of visual exercises. Resourceful and creative problem solving encouraged.

ART 157. Color Theory 3 cr. (2+4P)
Various color theories as they relate to compositional organization. Required for art education majors.

ART 160. Computer-Based Illustration 3 cr. (2+4P)
Introduction to the principles of computerized drawing and design. Using the basic concepts, drawing tools, and vocabulary of Adobe Illustrator. Prerequisite: ART 150, ART 155, or consent of instructor.

ART 161. Digital Imaging I 3 cr. (2+4P)
Work with basic concepts, tools, and vocabulary of Adobe Photoshop to create effective visual communication. Includes selection tools, cloning, copying and pasting, color correction, image restoration, filters, and special effects. Community Colleges only.

ART 162. Digital Graphics 3 cr. (2+4P)
Importing and exporting images and text into various desktop publishing formats. Exploring imaging, drawing, and page layout applications. Introduction to typography. Prerequisite: ART 161.

ART 165. Web Page Design 3 cr. (2+4P)
Introduction to the creation of well-designed and organized Web sites. Emphasis on building creative but functional user-friendly sites. Introduction to HTML, Flash, Java Script, and Web-authoring software. Prerequisite: ART 161. Community Colleges only. Same as OEPT 165.
ART 250. Drawing III 3 cr. (2+4P)
Introduction to intensive drawing from the figure with a focus on observation. Outside assignments may be required. Prerequisite: ART 151 (for art majors) or ART 155.

ART 252. Aspects of Drawing 2-3 cr.
Continued work in drawing with emphasis on personal creative endeavor. Prerequisites: ART 150, ART 151, and ART 250. Community Colleges only.

ART 254. History of Graphic Design 3 cr.
History of graphic language and evolution of graphic communication.

ART 255. Introduction to Graphic Design and Digital Media 3 cr. (2+4P)
Introduction to the principles of visual communication and digital media, with an emphasis on the creation of graphic form and style. Prerequisite: ART 156 for Art majors.

ART 256. Introduction to Letter Forms and Typographic Design 3 cr. (2+4P)
Introduction to letter forms, typography and identify marks. Projects produced using conventional and digital graphic designer tools.

ART 260. Introduction to Painting 3 cr. (2+4P)
Introduction to basic skills of painting through various exercises that emphasize working from observation.

ART 261. Painting Methods, Techniques and Applications 3 cr. (2+4P)
The investigation of formal aspects of painting, an examination of painting techniques, and an exploration of various methodologies regarding form and content as applied to critical thinking skills through medium of paint. Prerequisite(s): ART 150, ART 260.

ART 262. Aspects of Painting 2-3 cr.
Varied painting media: continued development of painting skills. Prerequisites: ART 150, ART 155 (for art majors), ART 260, or consent of instructor.

ART 265. Sculpture I, A Introduction to Sculpture: Process and Possibility 3 cr. (2+4P)
A series of interpretive assignments incorporating such processes as mold making, welding and wood working. Creative problem solving and visual thinking skills emphasized. Examples of contemporary sculpture regularly presented and discussed.

ART 266. Go Figure: The Body in Contemporary Art 3 cr. (2+4P)
The Human Body as a subject for contemporary Sculpture is thriving and full of possibilities. Students will be introduced to a variety of processes and will create three thematically based projects that are rooted in traditional or contemporary sculptural practices. Restricted to: Main campus only.

ART 267. Art Portfolio Preparation 3 cr. (2+4P)
Refine general marketing strategies, personal portfolio and resumes. Define, target, and penetrate personal target markets. Students develop individual promotional packages. Prerequisites: ART 163, ART 269, and ART 272, or consent of instructor.

ART 268. Desktop Publishing II 3 cr. (2+4P)
Advanced principles of typography and page layout. Combining multiple images and text from different applications; study of pre-press preparation and image readiness for separations and for the service bureaus. Prerequisite: ART 163.

ART 269. Advanced Computer-Based Illustration 3 cr. (2+4P)
Design custom graphics and create special effects with filtering, special effects on type, graphing, technical illustrations, and three-dimensional drawing using Adobe Illustrator. Prerequisites: ART 157, ART 160, and ART 161, or consent of instructor.

ART 270. Photography I 3 cr. (2+4P)
Introduction to basic skills required for shooting, processing, and printing black and white photographs. Introduction to historical and contemporary photographers and critical issues of the medium. Prerequisites: ART 156 (for art majors.)

ART 271. Large Format Photography and Lighting 3 cr. (2+4P)
Introduction to the 4X5 view camera, medium format cameras, Zone System and artificial lighting. Emphasis on refinement of technical process and critical thinking. Prerequisite: ART 156 and ART 270. Restricted to majors.

ART 272. Digital Imaging II 3 cr. (2+4P)
Refining of individual creative styles and technical skills using Adobe Photoshop. Emphasis on input and output predictability. Working with large file productions, color management systems and solving pre-press problems. Prerequisite: ART 160 and ART 161, or consent of instructor. Same as DEPT 217. Community Colleges only.

ART 273. Advanced Web Page Design 3 cr. (2+4P)
Continuation of ART 165. Advanced development of visually creative, animated, and interactive sites. Includes in-depth coverage of custom forms, shopping carts, etc. Prerequisites: ART 160, ART 161, and ART 165. Community Colleges only. Same as DEPT 273.

ART 275. Ceramics I, A 3 cr. (2+4P)
Introduction to clay arts. Techniques of hand building, wheel throwing, and glazing. Prerequisite: ART 156 (for art majors) or consent of instructor.

ART 276. Ceramics I, B 3 cr. (2+4P)
Beginning ceramics, complementary half to ART 275. (Art 275 and Art 276 do not need to be taken consecutively.) Basic building techniques of coil, slab, and throwing are introduced. High-fire and low-fire clays are used. Prerequisite: ART 156 (for art majors) or consent of instructor.

ART 280. Printmaking I 3 cr. (2+4P)
Varied media in printmaking and compositional problems.

ART 281. Printmaking II 3 cr. (2+4P)
Printmaking materials and techniques, with emphasis in intaglio and relief procedures. Prerequisites: ART 150, ART 156 (for art majors) and 280. Corequisite: Art 150.

ART 285. Metals and Jewelry I 3 cr. (2+4P)
Fundamental processes and design necessary for metal fabrication of jewelry, functional and non-functional objects. Prerequisites: ART 156 (for art majors) or consent of instructor.

ART 286. Stained Glass 3 cr. (2+4P)
Instruction in the fundamental fabrication and design techniques for stained glass. Introduction to visual decision making skills, historical, and critical issues of the medium. Community Colleges only.

ART 290. Internship 3 cr. (1-6P)
Supervised internship program. Student will work for an approved business in his/her area of study. Student to be rated by business supervisor and instructor. Weekly meetings with instructor required. Prerequisite: consent of instructor. Community Colleges only. Graded S/U.

ART 294. Special Topics in Studio 1-3 cr.
Specific subjects and credits to be announced in the Schedule of Classes. No more than 9 credits toward a degree. Prerequisite: consent of instructor.

ART 295. Introduction to Art History I 3 cr.
An introduction to the principles of art history within a chronological framework of the art of the Western World. All media will be discussed. From prehistoric times to the fourteenth century.

ART 296. Introduction to Art History II 3 cr.
Continuation of ART 295. Art of the Western world from Late Gothic to the Rococo.

ART 297. Introduction to Art History III 3 cr.
Continuation of ART 296. Art of the Western world from the Enlightenment to the present.

ART 300. Special Topics in Art History 3 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisites: ART 295, ART 315, and ART 316, or consent of instructor. May be repeated for a maximum of 12 credits.

ART 310. Native American Art 3 cr.
Cross-cultural introduction to art of the prehistoric and historic native peoplecess of the North, Central, and South Americas. Considers the artistic expression and the function of art in diverse cultural and environmental contexts. Prerequisite: ART 295 or ART 315 or consent of instructor.

ART 320. Art and Architecture in Pre-Columbian Meso-America 3 cr.
Analysis of the art and culture of the Mesoamerican peoples before the arrival of Columbus in the New World. Includes an in-depth formal and historical analysis of architecture, sculpture, painting, pottery, and metal works of Mixtec, Toltec, Aztec, Maya, and other cultures and civilizations. Prerequisite: ART 295 or ART 315 or consent of instructor.

ART 321. Pre-Columbian Art and Architecture of the Andes 3 cr.
Examines the arts and history of pre-Columbian Andean cultures in a cultural context. Analysis of architecture, sculpture, pottery, jewelry, textiles, and feather work. Prerequisite: ART 295 or ART 315 or consent of instructor.

ART 328. Baroque Art and Architecture in Northern Europe 3 cr.
Study of architecture, painting sculpture in Flanders, Holland, France, England, and Germany as indigenous developments and as reflections of the Italian Baroque. Prerequisite: ART 295 or ART 315 or consent of instructor.

ART 329. Survey of Western Architecture 3 cr.
Survey of history of Western architecture from prehistoric time to the present. Prerequisite: ART 295 or ART 315 or consent of instructor.
ART 330. Modern Architecture 3 cr.
Architecture of the later eighteenth, nineteenth, and twentieth centuries in the context of technological, social, and stylistic changes. Focus on the works of Louis Sullivan, Frank Lloyd Wright, and European architects of the International Style, and the current reaction. Prerequisites: ART 295, ART 315, ART 316 or consent of instructor.

ART 333. Baroque Art and Architecture in Italy, Spain, and Hispanic Latin America 3 cr.
Concentration of Italian Baroque architecture, painting, and sculpture; and on Spanish painting, sculpture, and architecture, as well as the art and architecture of Spanish vice-royalties of the Americas. Prerequisites: ART 295, ART 315, or consent of instructor.

ART 336. The African American in Art 3 cr.
Traces the inclusion of African-American subjects and procedures of art in the U.S. from the nation’s beginnings to the present. Slavery, civil rights, and racial pride are discussed as academic and avant-garde traditions in African-American art. Prerequisite: ART 316, or consent of instructor.

ART 337. American Art to 1900 3 cr.
History of painting, sculpture, architecture, and other arts in the United States from the colonial period to 1900. Prerequisites: Either ART 101G, ART 295, ART 315, ART 316 or consent of instructor.

ART 338. Late Eighteenth- and Nineteenth-Century European Art 3 cr.
History of painting, sculpture, architecture, and other arts created in Europe from 1789 to 1900. Prerequisites: Either ART 101G, ART 295, ART 315, ART 316 or consent of instructor.

ART 342. Twentieth-Century Art I, 1900-1945 3 cr.
History of painting, sculpture, and other arts in Europe, the United States, and elsewhere from 1900 to 1945. Prerequisites: Either ART 101G, ART 295, ART 315, ART 316 or consent of instructor.

ART 343. Twentieth-Century Art II, 1945-Present 3 cr.
History of painting, sculpture, and other arts in Europe, the United States, and elsewhere from 1945 to the present. Prerequisites: Either ART 101G, ART 295, ART 315, ART 316 or consent of instructor.

ART 350. Drawing IV 3 cr. (2+4P)
Drawing from observation of the figure. Outside assignments may be required. Prerequisites: ART 150, ART 151, ART 155 (for art majors), ART 250 or consent of instructor.

ART 355. Graphic Design and Digital Production 3 cr. (2+4P)
Introduction to the design and graphic production of projects, using conventional and digital techniques. Prerequisite: ART 255 and ART 256, or consent of instructor. Restricted to majors.

ART 356. Graphic Design and Multicolor Digital Production 3 cr. (2+4P)
Design and production of multicolor projects using conventional and digital techniques. Prerequisites: ART 355 or consent of instructor. Restricted to majors.

ART 357. Digital Graphic Design and Illustration 3 cr. (2+4P)
Graphic illustrations and icons using vector and bitmap software programs. Emphasis on editorial, information and cultural applications. Prerequisite: ART 150, ART 255, ART 256, or consent of instructor. May be repeated for a maximum of 6 credits. Restricted to majors.

Creation of graphic icons, stylizations and archetypes. Projects produced using vector-based computer programs. Some computer experience required. Prerequisites: ART 150, ART 255, and ART 256, or consent of instructor.

ART 360. Innovation and Creativity in Painting 3 cr. (2+4P)
Innovative and creative solutions to painting within a contemporary context. Prerequisite(s): ART 261.

ART 361. Painting IIIB 3 cr. (2+4P)
Media, materials and technical problems of contemporary painting continued. Prerequisites: ART 360 and one of ART 295, ART 315, or ART 316. May be repeated for a maximum of 6 credits.

ART 362. Watercolor 3 cr. (2+4P)
Exploration of painting concepts and personal imagery using the watercolor medium. Prerequisite: ART 250 or consent of instructor. May be repeated for a maximum of 6 credits.

ART 365. Sculpture II A - Emerging Sensibility 3 cr. (2+4P)
Cultivation of individual direction through constant creative action. Emphasis on self-styled assignments. Rotating themes pertinent to contemporary sculpture supplement aesthetic and conceptual awareness. Prerequisite: ART 265 and ART 266 or consent of instructor.
ART 401. Museum Conservation Techniques I 3 cr. (2+3P) 
Examines the philosophy of museum conservation of works of art in all 
media and in all contexts. Includes discussions of the theory of conserva-
tion as well as student laboratory projects involving testing and conserva-
tion objects. Enrollment limited to twelve. First of two consecutive courses. 
Instructor permission required.

ART 402. Museum Conservation Techniques II 3 cr. (2+3P) 
Examines the philosophy of museum conservation of works of art in all 
media and in all contexts. Includes discussions of the theory of conserva-
tion as well as student laboratory projects involving testing and conserva-
tion objects. Enrollment limited to twelve. Second of two consecutive 
courses. Prerequisite: ART 401 and consent of instructor.

ART 403. Preventative Conservation/Collections Care 
3 cr. 
Museum conservation of art work.

ART 444. Art and Life in Renaissance Italy 3 cr. 
Examines how Italian Renaissance textual and visual culture offered 
Europe new ways of seeing and portraying itself. 1350-1550. Topics 
include: Florence, Venice, Rome, Leonardo, Michelangelo, titian, human-
ism, the Medici, and republican and courtly culture. Same as HIST 442. 
Prerequisites: ART 295, ART 315, and ART 316.

ART 449. Advance Figure Drawing 3 cr. (2+4P) 
Advance figure drawing class with emphasis on developing technical and 
conceptual skills. Prerequisites: ART 150, 151, 250, and 350.

ART 450. Drawing Workshop 3 cr. 
Critique class on drawings done outside of class. Emphasis on develop-
ment of conceptual and technical skills. Prerequisite: ART 350.

ART 451. Time-Based Media 3 cr. 
Advance figure drawing class with emphasis on developing technical and 
conceptual skills. Prerequisite: ART 350. May be repeated up to 27 credits. 
Restricted to ART majors.

ART 452. Visual Display and Interface Design 
3 cr. 
Students explore current topics in multimedia design, communication, and 
technology. A critical approach to the interface design of multimedia and 
screen-based media. Information sets include print to screen, web and 
kiosk delivery systems. This course will explore dynamic models of user 
access and response. Prerequisite: ART 356 or consent of instructor.

ART 453. Artist Books 3 cr. 
Exploration of the visual book structure. Basic book bindings and produc-
tion methodology for multiples are covered, as well as alternative 3-D sys-
tems. Students will focus on the use of text and image and concentrate on 
experimental strategies in narratives. Open to all artists and disciplines.

ART 454. Design Discourse 3 cr. 
Discussion of issues related to visual communications and graphic design. 
Research and semester-long studio project supplement readings and dis-
cussion. Prerequisite: ART 356 or consent of instructor. May be repeated 
for a maximum of 6 credits. Restricted to majors.

ART 455. Advanced Graphic Design: Conceptual Development and Professional Practice 3 cr. (2-4P) 
Advanced graphic design projects in graphic form, typographic design, 
and comprehensive layouts, with emphasis on conceptual development 
and professional practices. Prerequisites: ART 356. May be repeated to a 
maximum of 6 credits. Restricted to majors.

ART 456. Advanced Graphic Design: Portfolio Development and Professional Practice 3 cr. (2-4P) 
Advanced graphic design projects with an emphasis on conceptual develop-
ment, portfolio preparation, and professional practices. Prerequisite: 
ART 453. May be repeated for a maximum of 12 credits. Restricted to 
majors.

ART 457. Advanced Typographic Design and the Computer 3 cr. 
Advanced projects exploring use of typography in visual communication. 
electronic and conventional print applications emphasized. Prerequisites: 
ART 255 and ART 256, or consent of instructor. May be repeated for a ma-
imum of 6 credits.

ART 458. The New Mexico Studio of Design 3 cr. 
An advanced graphic design studio providing a design service for nonprofit 
community organizations. Client-based projects produced by students from 
concept to completion. Prerequisite: ART 350 or consent of instructor. 
May be repeated for a maximum of 6 credits.

ART 459. Advanced Digital Illustration 3 cr. (2+4P) 
Illustration course for graphic designers emphasizing the creation of 
editorial, informational, and cultural illustrations, using vector and bitmap 
computer programs. Prerequisite: ART 359, or consent of instructor. 
May be repeated for a maximum of 6 credits.

ART 460. Painting Workshop 3 cr. 
Media, materials and advanced technical problems of contemporary paint-
ers. Main campus only. Restricted to majors. May be taken up to 6 cred-
its. Prerequisites: ART 350, ART 361 and either ART 315 or ART 316.

ART 461. Painting Workshop II 3 cr. (2-4P) 
Advanced issues in contemporary painting. May be repeated for a maxi-
imum of 6 credits. Restricted to majors. Prerequisites: ART 315, ART 316 
and ART 460.

ART 465. Sculpture Workshop 3 cr. (2-4P) 
Development of content and personal vision via self-styled projects. 
Emphasis on critical self-evaluation. Contemporary topics and research 
presentation furthering the development of a cohesive body of work. Pre-
requisite: ART 366. May be repeated for a maximum of 12 credits.

ART 470. Photography Workshop 3-6 cr. 
A critique and reading course in which students pursue independent work. 
Emphasis placed on portfolio production and professional practice. Pre-
requisites: ART 271 and one of ART 369, 370, 373, or consent of instructor. 
May be repeated for 12 credits. Restricted to majors.

ART 471. Large Format Photography and Lighting 3 cr. (2-4P) 
Introduction to the 4x5 view camera, medium format cameras, Zone 
system and artificial lighting. Emphasis on refinement of technical process 
and critical thinking. Prerequisite: ART 271. May be repeated up to 6 credits. 
Restricted to ART majors.

ART 472. Advanced Color Photography and Lighting 3 cr. 
Advanced techniques in color photography with medium and large format 
cameras. Studio lighting with color photographic materials. Reading and 
critique. Prerequisites: ART 370. Restricted to majors.

ART 474. Advanced Ceramic Tile 3 cr. (2-4P) 
Instruction in a variety of ceramic tile-making techniques with consider-
able exploration of surface finishing. Assignments focus on tile paintings 
and murals with an emphasis on content. Prerequisite: ART 374. May be 
repeated for a maximum of 9 credits.

ART 475. Ceramics Workshop 3-6 cr. (2-4P) 
Continuation of ART 375. Prerequisite: ART 375. May be repeated for 18 
credits.

ART 476. Advanced Museum/Gallery Research Internship 1-9 cr. 
Advanced research internship in museum or gallery. Requirements 
determined by instructor in cooperation with supervising museum/gallery 
professional. For art history credit. Prerequisite: ART 376 and consent of 
instructor. May be repeated for a maximum of 9 credits. Course may not be 
audited.

Advanced research on special problems to be conducted under supervi-
sion of art history faculty. May be taken up to 12 credits. Prerequisites: 
ART 295, ART 315, ART 316, one 300 level art history course and consent of 
instructor.

ART 478. Seminar: Selected Topics in Art History 3 cr. 
Reading, research, and discussion of advanced problems. Main campus 
only. May be taken up to 12 credits. Prerequisites: ART 295, ART 315, ART 
316, one 300 level art history course and consent of instructor.

ART 479. Art Theory, Criticism, and Historiography 3 cr. 
Theories and methodologies in art history and art criticism. Main campus 
only. Prerequisites: ART 295, ART 315, ART 316, one 300 level art history 
course, and consent of instructor.

ART 480. Printmaking Workshop 3-6 cr. 
Problems in printmaking. May be repeated for a maximum of 15 credits. 
Prerequisite(s): ART 380.

ART 485. Metals Workshop 3-6 cr. 
Advanced individual problems. Prerequisite: 6 credits of ART 385. May be 
repeated for a maximum of 15 credits.

ART 494. Special Topics in Studio 3 cr. 
Specific subjects and credits to be announced in the Schedule of Classes. 
No more than 9 credits toward a degree.

ART 495. Undergraduate Studio Thesis 3 cr. 
Special research and independent study leading to undergraduate thesis 
exhibition. Prerequisite: consent of instructor. Restricted to majors. Course 
may not be audited.
ART 496. Fundamentals of Studio Management 1 cr.
Advanced studio course designed to introduce students to the fundamentals of studio management. Includes training in proper tools use and maintenance; safety procedures; and practical experience with studio oversight. Concurrent registration in advanced level studio course of the same media area required. Prerequisite: consent of instructor. May be repeated for a maximum of 3 credits. Restricted to majors. Graded S/U.

ART 497. Readings in Art History 3 cr.
In-depth study of art historical writing. Main campus only. May be taken up to 12 credits. Prerequisites: ART 295, ART 315, ART 316, one 300-level art history course, and consent of instructor.

ART 499. Problems in Studio 3-6 cr.
Individual study in specialized studio areas not covered by other advanced courses. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

ASTR- ASTRONOMY

ASTR 105G. The Planets 4 cr. (3+2P)
Comparative study of the planets, moons, comets, and asteroids which comprise the solar system. Emphasis on geological and physical processes which shape the surfaces and atmospheres of the planets. Laboratory exercises include analysis of images returned by spacecraft. Intended for non-science majors, but some basic math required. This lecture/lab course satisfies the New Mexico Common Core Area III: Lab Sciences requirement.

ASTR 110G. Introduction to Astronomy 4 cr. (3+2P)
A survey of the universe. Observations, theories, and methods of modern astronomy. Topics include planets, stars and stellar systems, black holes and neutron stars, supernovas and gaseous nebulae, galaxies and quasars, and cosmology. Emphasis on physical principles involving gravity, light and optics (telescopes). Generally non-mathematical. Laboratory involves use of the campus observatory and exercises designed to experimentally illustrate principles of astronomy. This lecture/lab course satisfies the New Mexico Common Core Area III: Lab Sciences requirement.

ASTR 210. The Search for Extraterrestrial Life 3 cr.
Recent discoveries concerning life within the Solar System are discussed and generalized to other star systems. Current space travel and interstellar communication efforts are reviewed.

ASTR 301V. Revolutionary Ideas in Science 3 cr.
Examines fundamental scientific revolutions that have shaped our view of Earth and the universe. Topics range from biology to geology to astronomy and provide the perspective necessary to evaluate scientific issues in current public policy debates. Includes in-class debates. Prerequisite: any general education science course.

ASTR 305V. The Search for Life in the Universe 3 cr.
Use of information from several of the sciences to explore the likelihood that life exists elsewhere in the universe. Subjects include an overview of historical ideas about the possibility of life elsewhere in the universe, the chemistry and biology of life on Earth, recent explorations for life within our solar system, and current search strategies for life in the universe and their scientific basis.

ASTR 308V. Into the Final Frontier 3 cr.
Exploration of space: a brief review of the history of space flight, the Apollo program, joint U.S.-Soviet space missions, and unstaffed exploration of the planets. Emphasis on knowledge gained through these efforts. Includes new space initiatives. Same as HON 308V.

ASTR 330V. Planetary Exploration 3 cr.
A current planetary exploration mission is studied within the context of the solar system. The data acquired and principles involved in executing the mission, as well as political and economic implications of planetary exploration, are examined. Same as HON 330V. Main campus only.

ASTR 350. Special Topics 3 cr.
Special topics course in astronomy for undergraduate students. Specific subjects to be announced in the Schedule of classes.

ASTR 400. Undergraduate Research 1-3 cr.
Supervised individual study or research. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

ASTR 405. Astronomy and Astrophysics I 3 cr.
Application of physical principles to problems in modern astronomy. Emphasis on radiation mechanisms and radiation transfer in astronomical systems. Prerequisite: consent of instructor. No S/U grading. Same as ASTR 505 with less advanced work.

ASTR 406. Astronomy and Astrophysics II 3 cr.
Sequel to ASTR 405 with emphasis on basic dynamics and (magneto) hydrodynamics. Prerequisite: consent of instructor. No S/U grading. Same as ASTR 506 with less advanced work.

ASTR 435. Observational Techniques I 3 cr.
Up-to-date introduction to modern observational astronomy. Includes computers, data analysis, optical telescopes, optical and infrared photometry, image processing, and detection. Prerequisite: consent of instructor. No S/U grading. Same as ASTR 535 with less advanced work.

ASTR 461. Astronomy for Teachers 3 cr.
Illustration and presentation of concepts of astronomy in different subject areas to broaden teacher preparation for science education in public schools.

AXED- AGRICULTURAL AND EXTENSION EDUCATION

AXED 100. Introduction to Agricultural, Extension, and Technology Education 3 cr.
Orientation to programs, philosophies, competencies and leadership skills needed by professionals in agricultural and technology education, extension education, agricultural communications, and related career opportunities in industry, governmental agencies, and international organizations.

AXED 105. Techniques in Agricultural Mechanization 3 cr. (2+2P)
Development of competencies in agricultural mechanics including safety, tool identification, operation and maintenance of hand and power tools, cold metal, drafting, and plumbing procedures. Designed for any major wishing to improve mechanical skills needed in agriculturally related occupations in education and industry.

AXED 111. Freshmen Orientation 1 cr.
Orientation to University life, including the understanding and utilization of resources that promote University success. Designed to promote success in achieving a career objective and perseverance for degree completion. Promotes a recognition of changes required in moving from high school to the University. Eight weeks in length, required for all freshmen in the College of Agriculture and Home Economics.

AXED 200. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 6 credits toward degree.

AXED 201G. Effective Leadership and Communication in Agricultural Organizations 3 cr. (2+2P)
Theory and practice in leadership and communication for professionals who must work effectively in leadership and supervisory roles with people in agricultural business, industry, government agencies, and education. Course focuses on contemporary leadership theories. Oral communication skills in informative and persuasive speaking, parliamentary procedure, and for small groups are developed.

AXED 205. Metal Technology-Fabrication 3 cr. (1+2P)
Processes and procedures of metal fusion, including gas and electric welding techniques and safety. Designed for any major wishing to improve mechanical skills needed in agriculturally related occupations in education and industry.

AXED 230. Early Field-Based Experience 1 cr.
Five-day field experience plus orientation and evaluation session. First-hand view of the roles of professional educators through field experiences in agricultural, extension, or technology education settings. Site options may include schools, extension offices, agencies, business, and industry. Prerequisites: consent of instructor. Corequisites: AXED 100. Graded S/U.

AXED 300. Special Topics 1-4 cr.
Course addresses specific subjects and issues as identified by department. Topics and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 6 credits may be applied to a degree.

AXED 303. Small Engine Technology 3 cr. (2+2P)
Development of competencies in small gasoline engines; theory, operation, design, maintenance and safety. Designed for any major wishing to improve mechanical skills needed in agriculturally related occupations in education and industry.

AXED 331. Agricultural Structures 3 cr. (2+3P)
AXED 348. Advanced Technology in the Agricultural Industry 3 cr. (2+3P)
Application of technology in agricultural industry that includes solar energy, irrigation techniques, computer-aided drafting, laser leveling, TIG welding, and water quality and agricultural waste management.

AXED 360. Agricultural Communications 3 cr.
Principles and practical experience in news writing, radio production, newsletter design, public meeting presentations, video productions, graphics, and public relations activities, especially as related to the fields of agriculture and family and consumer sciences.

AXED 380. Philosophy and Methods of Contests 3 cr.
Covers the role that career development events (contests) play in agricultural and technology education. Topics include competition and cooperation, winning and losing, ethics, use of community resources, and academic and employability skills taught through contests. Coaching as a teaching method is introduced and expanded. Students will learn to coordinate various career development events.

AXED 400. The Diffusion and Adoption of Agricultural Innovations 3 cr.
Factors that influence the rates of diffusion and adoption of innovations. Consequences of adopting or rejecting innovations. Processes by which change agents influence introduction and adoption of innovations. Same as AXED 500.

AXED 415. Youth Program Development and Management 3 cr.
Designed for professionals involved in youth group activities. Basic concepts in planning, conducting, and managing educational youth programs in a variety of organizations.


AXED 430. Teaching Adults in Nonformal Settings 3 cr.
The adult and postsecondary learner; adult learning styles and principles; use of community resources and problem-solving techniques; and learning strategies for adults in formal and nonformal education.

AXED 438. Keys for Agricultural and Rural Development 3 cr.
Introduction to concepts of development, the process of change, key factors that contribute to agricultural and rural development in a community, and strategies employed to effect change with implications for international students or domestic students planning to work internationally.

AXED 444. Planning and Methods in Nonformal Education 3 cr.
Identifying trends and resources of a community and planning community-based extension and nonformal education programs. Preliminary methods for teaching and evaluating nonformal education programs.

AXED 445. Developing Excellent Programs in Career and Technical Education 3 cr.
Students learn to develop excellence in the three components of a successful secondary school program in career and technical education: classroom and laboratory instruction, career and technical student organizations, and career development activities. Community-based program planning, utilizing partners, program marketing, and professional development are addressed as strategies for achieving excellence. Methods of obtaining financing and maintaining accountability for the program are discussed.

AXED 446. Methods for Teaching Agricultural and Technology Education 3 cr.
Methods of instruction and presentation, selection of teaching aids and support materials, classroom management, development of a complete educational program, and microteaching experiences. Prerequisite: GPA of 2.5 or above. Restricted to AXED Majors.

AXED 447. Directed Teaching in Agricultural or Technology Education 12 cr.
Fourteen-week off-campus professional experience in directed teaching and observation provided in selected centers under secondary agricultural or technology education supervising teachers. Prerequisites: AXED 445, 446 and consent of instructor. Restricted to AXED majors.

AXED 448. Directed Teaching in Extension Education 4-12 cr.
Four-to-fourteen-week, professional experiences in directed teaching and observation provided in cooperative extension at the county, regional, or state level. Prerequisite: consent of instructor.

AXED 449. Directed Field Experience in Agricultural or Technology Education 4-12 cr.
Four-to-fourteen-week, supervised learning experience in an approved teaching setting with application to educational, agricultural, technological, communications, public relations, or environmental practices. Prerequisite: consent of instructor.

AXED 456. Introduction to Research Methods 3 cr.
Introduction to research design and methodology in education and behavioral sciences. Overview of common research designs and data collection strategies. Prepares students to critique published research and understand basic skills including hypothesis development and conducting a literature search. Prerequisite: junior standing.

AXED 460. Methods in Career and Technical Laboratory Instruction 2 cr.
For students planning to teach agricultural or technology education at a secondary or postsecondary level. Focus on planning, delivering, and evaluating instruction in laboratories; and on CPR, first aid, and NCCER certifications. Laboratory safety and tool, equipment, and laboratory management systems are also emphasized. Restricted to AXED Majors.

AXED 475. Leadership On Agricultural and Natural Resource Issues 3 cr.
Investigates leadership concepts and group dynamics as they relate to a changing world and complex agricultural and natural resource issues. Topics include emotional intelligence, leading change, political leadership, facilitating agreement, team building, and managing conflict in agricultural and natural resource settings.

AXED 485. Agriscience Laboratory Applications 3 cr.
Students learn to set up and teach in a modular agriscience laboratory, utilizing a variety of technologies. Modules covered may vary from semester to semester, but examples are: aquaculture systems, microscopy, tissue culture, soil and water testing, electrophoresis, hydroponics, global positioning systems, robotics, and presentation technologies. Students may develop their own modules and/or experiments. Graduate students will assist in laboratory set up and delivery. Prerequisite: Junior standing or above. Main campus only.

AXED 486. Effective Management of Volunteer Programs 3 cr.
For individuals currently involved in, or interested in being involved in, the management and supervision of volunteer programs. Emphasis on practical application, utilizing a research and academic base. Explores the roles, functions, and tasks of volunteers and managers of volunteers including recruitment, orientation and training, supervision, evaluation, recognition and retention.

AXED 487. The Cooperative Extension Service: An Overview 1 cr.
On-line course addressing the history, mission, philosophy, structure, program areas and delivery methods of the Cooperative Extension Service. Course is relevant for anyone pursuing a career in Cooperative Extension.

AXED 488. 4-H Youth Development 1 cr.
On-line course explores 4-H Youth Development as an integral part of the Cooperative Extension Service. Topics to be addressed include mission, philosophy, delivery modes, audiences and partnerships. Course is relevant for anyone interested in pursuing a career in Cooperative Extension.

AXED 499. Independent Study in Agricultural, Extension, or Technology Education 1-3 cr.
Specific subjects are agreed upon by the student and instructor. Prerequisites: junior or senior standing and consent of instructor. May be repeated for a maximum of 6 credits.

AXED 500. The Diffusion and Adoption of Agricultural Innovations 3 cr.
Factors that influence the rates of diffusion and adoption of innovations. Consequences of adopting or rejecting innovations. Processes by which change agents influence introduction and adoption of innovations.

B A - BUSINESS ADMINISTRATION

B A 104. Introduction to Business 3 cr.
Survey and integration of functions in business organizations within their social and economic environment. Community Colleges only.

B A 105. Special Topics 1-3 cr.
Current topics in business and economics.

Appraisal of business functions within the framework of a small business organization.

B A 291. Business Administration and Economics Internship and Cooperative Education I 1-3 cr.
Introduction and applications of the principles of business administration and economics. Registration in one course allowed per co-op work phase; a minimum of 12 work weeks is required. Open only to students in the College of Business Administration and Economics. Option of S/U or a grade. The amount of academic credit (1-3 cr.) will be determined by the academic experience, and not by the work experience.

B A 301. Career Planning in Business 1 cr.
Orientation in developing career objectives, seeking target employers, writing resumes, and interviewing with employers. Graded S/U.
B A 305. Leadership Training for COB Ambassadors
1 cr.
Leadership development for volunteers serving as COB student ambassadors, focusing on COB undergraduate business degree programs, NMSU student services, public speaking and public relations.

B A 391. Business Administration and Economics Internship and Cooperative Education II
1-3 cr.
Applications of the principles of business administration and economics. Registration in one course allowed per co-op work phase; a minimum of 12 work weeks is required. Open only to students in the College of Business Administration and Economics. Option of S/U or a grade. The amount of academic credit (1-3 cr.) will be determined by the academic experience and not by the work experience.

B A 448. Small Business Consulting
3 cr.
Study, analysis, and presentation of recommendations for solving significant problems confronting small businesses. Prerequisite: senior standing or consent of instructor. Same as MGT 448.

B A 485. The Business of Science and Technology
3 cr.
This course examines business practices for science and technology organizations. The main focus of this course is to show the commercialization process, using business processes to transform an invention into a marketable product. For example, biomedical science discoveries reach patients through collaborative interactions among universities, private industry, and the government over a period of time. Strategic planning, marketing, finance, accounting, and management practices facilitate the transformation process. Topics include patents, funding, business plan preparation, risk management, and ethical conduct. This course will also address historical, current and global perspectives of science-driven and technology-driven businesses. Not open to MBA students.

B A 490. Selected Topics
3 cr.
Prerequisites vary according to the seminar being offered.

B A 491. Business Administration and Economics Internship and Cooperative Education III
1-3 cr.
Applications of the principles of business administration and economics. Registration in one course allowed per co-op work phase; a minimum of 12 work weeks is required. Open only to students in the College of Business Administration and Economics. Option of S/U or a grade. The amount of academic credit (1-3 cr.) will be determined by the academic experience and not by the work experience.

B A 498. Independent Study
1-3 cr.
Individual studies directed by consenting faculty with the prior approval of the department head. Prerequisite: junior or above standing and consent of instructor. A maximum of 3 credits may be earned.

BCHE - BIOCHEMISTRY

BCHE 140. Introduction to Biochemistry
1 cr.
A description of the nature of inquiry in biochemistry, especially with respect to the interaction of chemistry and biology. Both historical development and topics of current interest will be discussed. Graded S/U.

BCHE 241. Introduction to Research in Biochemistry
1-3 cr.
Techniques and procedures of biochemical research. Prerequisites: 8 credits of chemistry and 3.0 GPA in chemistry. May be repeated for a maximum of 3 credits.

BCHE 341. Survey of Biochemistry
4 cr. (3+3P)
Basic principles of biochemical processes and the structure/function of the major classes of biomolecules, with introductions to metabolism and the central dogma of biochemistry. The chemical and biological properties of major biomolecules (DNA, proteins, carbohydrates and lipids) are explored in the laboratory component. Prerequisite: C or better in CHEM 211.

BCHE 395. Biochemistry
3 cr.
Principles governing the physics and chemistry of life processes with emphasis on the relationships between molecular structure and cell function. Prerequisite: CHEM 314.

BCHE 396. Biochemistry and Biotechnology
3 cr.
Principles and current models for transcription, replication, recombination, and translation in prokaryotes and eukaryotes. Recombinant DNA technology and expression of foreign DNA in heterologous expression systems, with application to biotechnology. Prerequisite: C or better in BCHE 395.

BCHE 396 H. Biochemistry and Biotechnology Honors
Same as BCHE 396 with additional work required.

BCHE 397. Experimental Biochemistry Laboratory
3 cr.
Introduction to fundamental techniques used to explore structure and function of biological macromolecules such as proteins, carbohydrates, lipids, and nucleic acid. Course covers analyzing and reporting experimental data; enzymology; quantitative methods to determine biological molecules; basic principles of electrophoresis, chromatography, and spectroscopic immunohemistry. Prerequisite: C or better in BCHE 395. Corequisite: BCHE 396.

BCHE 440. Biochemistry Seminar
1 cr.
Introduction to current literature in biochemistry and molecular biology. Selected topics in the field will be presented by the faculty. Students will present written and oral reports from literature searches. Prerequisite: BCHE 395.

BCHE 441. Advanced Research in Biochemistry
1-3 cr.
Investigation of biochemical problems and the development of special techniques. Prerequisites: consent of instructor, 16 credits of chemistry and 3.0 GPA in chemistry for nonmajors. May be repeated for a maximum of 3 credits.

BCHE 441 H. Advanced Research in Biochemistry Honors
1-3 cr.
Same as BCHE 441. Additional work to be arranged. Prerequisites: consent of instructor, 16 credits of chemistry and 3.0 GPA in chemistry for nonmajors. May be repeated for a maximum of 3 credits.

BCHE 446. Intermediary Metabolism and Metabolic Regulation
3 cr.
Catabolic and anabolic pathways of carbohydrates, lipids, amino acids, and nucleic acids, including their metabolic regulation are presented with their respective mechanistic, structural, functional, and evolutionary bases for existence. Prerequisites: BCHE 395 and either BCHE 396 or consent of instructor.

BCHE 451. Special Topics
1-3 cr.
Same as CHEM 451. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

BCHE 455. Independent Studies
1-3 cr.
Independent studies directed by consulting faculty. Prerequisite: consent of instructor.

BCHE 494. Techniques in Genetic Engineering
4 cr. (2+6P)
Basic laboratory techniques required for research involving recombinant DNA technology: structured experimental procedures, including nucleic acid isolation and purification, as well as the identification and manipulation of genes and genetic material of both bacterial and plant origin. Prerequisites: BCHE 395, 396, and consent of instructor.

BCIS - BUSINESS COMPUTER INFORMATION SYSTEMS

BCIS 110. Introduction to Computerized Information Systems
3 cr.
Computerized information systems, their economic, and social implications. Introduction to microcomputer hardware, personal productivity software, and communications.

BCIS 122. Introduction to Information Systems Programming
3 cr.
Includes basic computer algorithms in current programming environments and the Java programming language. Prerequisite(s): C or better in BCIS 110 or CS 110, and MATH 120.

BCIS 222. Object Oriented Programming
3 cr.
Introduction to general principles underlying the practice of object-oriented programming. Prerequisite(s): C or better in BCIS 122 or CS 187. Restricted to: Main campus only.

BCIS 298. Independent Study
3 cr.
Individual studies directed by consenting faculty with prior approval of the department head. A maximum of 3 credits may be earned. Prerequisite: Consent of instructor. Restricted to majors. Grade of C or better required.

BCIS 222. Advanced Object-Oriented Programming
3 cr.
In-depth exposure to object-oriented programming techniques and preliminary enterprise-level programming. Prerequisite: C or better in BCIS 222.

BCIS 338. Business Information Systems I
3 cr.
Application, design and use of computerized information systems in business environment. Prerequisite: BCIS 110 or C S 110 or consent of instructor. Not open to IS majors for credit toward major requirements.

BCIS 350. Information Systems Analysis and Design
3 cr.
Project management, analysis, requirements determination, and logical modeling of business information processing systems. Prerequisite(s): BCIS 222 or CS 187 or ET 282 or concurrent enrollment.

BCIS 398. Independent Study
3 cr.
Individual studies directed by consenting faculty with prior approval of the department head. A maximum of 3 credits may be earned. Prerequisite: consent of instructor. Restricted to majors. Grade of C or better required.
BCIS 450. Systems Design, Development and Implementation 3 cr.
Design, development and implementation of business information processing systems. Includes maintenance, evaluation and system management considerations. Prerequisite: C or better in BCIS 350.

Covers analysis, design, and development of on-line, real-time computerized business-information systems. Prerequisite: C or better in BCIS 350; and BCIS 322 or concurrent enrollment or consent of instructor.

BCIS 458. Knowledge Management and Decision Support 3 cr.
Design, evaluation and implementation of computerized decision systems. Prerequisite: C or better in BCIS 338 or consent of instructor. Majors may not use this course to satisfy the requirements.

BCIS 460. Data Communications and Networks 3 cr.
Data communications for business computer systems. Local and wide area networks, data communications protocols and media, client-server and distributed processing systems. Prerequisite: C or better in BCIS 350 or consent of instructor.

Simulation of business systems. Model design, implementation, testing and analysis. Prerequisites: C or better in BCIS 322 and STAT 251G.

BCIS 470. Object-Oriented Systems Development Techniques 3 cr.
Design and implementation of n-tier information systems in the object-oriented environment, including web-based interfaces, business logic, and database communication. Prerequisite: C or better in BCIS 350; and BCIS 322 or concurrent enrollment or consent of instructor.

BCIS 475. Database Management Systems 3 cr.
Design, development, and use of database management systems in the business environment. Prerequisite: C or better in BCIS 350 or consent of instructor.

BCIS 480. E-Commerce Security 3 cr.
Introduction to securing network-based applications from internal and external threats. Fundamentals of network security, including TCP/IP, firewalls, intrusion detection, and vulnerability. Prerequisite(s): C or better in BCIS 460 or ET 377 or consent of instructor.

BCIS 482. Management of Information Security 3 cr.
Provides management overview of information security and thorough examination of administration of information security. Surveys field of information security including planning, policy and programs, protection and people relative to information security. Prerequisite: BCIS 110 or equivalent. Same as BCIS 575.

This course covers concepts in enterprise resource planning (ERP). Topics include how ERP integrates business processes across functional areas—such as the procurement process and the sales order process—and how businesses use ERP information systems in day-to-day operations as well as for performance monitoring. SAP R/3 software will be used in several hands-on examples of ERP software as a real-world example of an ERP system. Prerequisite(s): C or better in BCIS 338 or BCIS 350 or ACCT 452.

BCIS 490. Selected Topics 1-3 cr.
Current topics in business systems analysis. Prerequisites vary according to topics being covered. May be repeated for a maximum of 12 credits under different subtitles.

BCIS 495. Enterprise Information Portals 3 cr.
Enterprise information portal (EIP) is a framework for integrating information, people and processes across organizational boundaries using web-based technologies. In this class, you will explore the wide range of options EIPs (e.g. SAP Netweaver Portal) provide to integrate ERP solutions, third-party applications, legacy systems, databases, unstructured documents, internal and external Web content, and collaboration tools. Taught with BCIS 495. Prerequisite(s): BCIS 485.

BCIS 498. Independent Study 1-3 cr.
Individual studies directed by consenting faculty with prior approval of the department head. Prerequisites: junior or above standing and consent of instructor. May be repeated for a maximum of 3 credits.

**BIL- BILINGUAL EDUCATION**

BIL 355. Introduction to Bilingual/Multicultural Special Education 3 cr.
Introduction to issues related to the provision of services to culturally and linguistically diverse students with exceptionalities. Same as SPED 355.

BIL 489. Topics 3 cr.
Course subtitled in the Schedule of Classes. May be repeated three times for a maximum of 9 credits.

**BIOL- BIOLOGY**

BIOL 101G. Human Biology 3 cr.
Introduction to modern biological concepts. Emphasis on relevance to humans and their relationships with their environment. Cannot be taken for credit after successful completion of BIOL 111G or BIOL 211G. Corequisite: BIOL 101L.

BIOL 101GL Human Biology Laboratory 1 cr. (3P)
Laboratory for BIOL 101G. Laboratory experiences and activities exploring biological concepts and their relevance to humans and their relationship with their environment. Corequisite: BIOL 101G.

BIOL 106G. Contemporary Problems in Biology 4 cr. (3-3P)
Fundamental concepts of biology will be presented using examples from relevant problems in ecology, medicine and genetics. For nonscience majors only. Community Colleges only.

BIOL 111G. Natural History of Life 3 cr.
Survey of major processes and events in the genetics, evolution, and ecology of microbes, plants and animals, and their interactions with the environment. Appropriate for nonscience majors. Must be taken with BIOL 111L to meet general education requirements.

BIOL 111GL Natural History of Life Laboratory 1 cr. (3P)
Laboratory experiments, demonstrations and exercises on interrelationships among organisms, biodiversity, processes of evolution, and interactions of organisms and their environment. Corequisite: BIOL 111G.

BIOL 154. Introductory Anatomy and Physiology 4 cr. (3-3P)
Survey of human structure and function (does not replace BIOL 190, BIOL 111G, or BIOL 211G as a prerequisite for advanced courses in biology). Community Colleges only.

BIOL 190. Principles of Biology 3 cr.
Principles of metabolism, genetics, physiology, evolution, and ecology. A background in chemistry is strongly recommended. For non majors only.

BIOL 201. The Local Environment 4 cr. (3-3P)
Introduction to the organisms, ecosystems, landscapes and environments of the surrounding area; field and laboratory studies of organisms and their environment; interaction of humans with other organisms and the environment from prehistory to present. Community Colleges only.

BIOL 211G. Cellular and Organismal Biology 3 cr. (3P)
Principles of cellular structure and function, genetics, and physiology of microbes, plants, and animals. Suitable for nonmajors with sufficient chemistry. Must be taken with BIOL 211L to meet general education requirements. Corequisites: CHEM 110G and CHEM 111G.

BIOL 211GL Cellular and Organismal Biology Laboratory 1 cr. (3P)
Laboratory demonstrations, experiments and exercises on molecular and cellular biology and organismal physiology. Must have passed BIOL 211G or be concurrently enrolled in BIOL 211G and BIOL 211L. Corequisite: either CHEM 110G or CHEM 111G.

BIOL 212. Supplemental Instruction for Cellular and Organismal Biology 1 cr.
Optional workshop for collaborative learning experiences aimed to improve class performance in cellular and organismal biology. Activities illustrate lecture material and encourage study strategies. Corequisite: BIOL 211G. May be repeated for a maximum of 2 credits.

BIOL 219. Public Health Microbiology 3 cr.
The characteristics of pathogenic microorganisms and the diseases that they cause. Will not meet the microbiology requirements for biology or medical technology majors. Corequisite: BIOL 211G and BIOL 211L.

BIOL 221. Introductory Microbiology 3 cr. (3P)
Principles of isolation, taxonomy, and physiology of microorganisms. Prerequisite: CHEM 112G, equivalent or consent of instructor. Corequisite: BIOL 221L. Community Colleges only.

BIOL 221 L. Introductory Microbiology Laboratory 1 cr. (3P)
A laboratory course to accompany BIOL 221 or BIOL 219. Prerequisite: BIOL 221 or BIOL 219 or concurrent enrollment.

BIOL 222. Zoology 3 cr. (2-2P)
Structure, function, and survey of animals. Prerequisite: BIOL 111G and BIOL 111L, or BIOL 190, and at least sophomore standing. Community Colleges only.
BIOL 225. Human Anatomy and Physiology I  4 cr. (3-3P)
The first in a two-course sequence that covers the structure and function of the human body, including terminology of the human gross anatomy, chemistry overview, cell structure, cell physiology (including DNA, protein synthesis and cell division). The organization of cells and tissues and their metabolic and homeostatic processes and regulation are also covered. Physical and chemical operation of organs and systems of the human body include the interaxillary skeletal, muscular, and nervous systems. Community Colleges only.

BIOL 226. Human Anatomy and Physiology II  4 cr. (3-3P)
The second in a two-course sequence that covers the structure and function of the human body. Includes the physical and chemical operation of the organs and systems of the human body, including endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive system. Concepts of nutrition, metabolism, energy, fluid and electrolyte balance, heredity, pregnancy and human embryonic and fetal development are also covered. Prerequisite(s): BIOL 225. Restricted to: Community College campuses only.

BIOL 241. Introduction to Research  1-3 cr. (3-3P)
Seminar with demonstrations by research professors. May be repeated for a maximum of 6 credits.

BIOL 250. Special Topics  1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits. Community Colleges only.

BIOL 253. Human Anatomy  4 cr. (3-3P)
Detailed presentations of human anatomy, with laboratory. Prerequisites: Grade of C in BIOL 190 or BIOL 211G and either CHEM 111G or CHEM 110G. For nursing, prenursing, and human nutrition and food science majors only.

BIOL 254. Human Physiology  3 cr.
Physical and chemical operation of the organs and systems of the human body. Not open to students who have passed BIOL 354 or BIOL 381. Prerequisites: BIOL 190 or BIOL 211G; BIOL 211L; CHEM 111G or CHEM 110G.

BIOL 254 L. Human Physiology Laboratory  1 cr. (3P)
Laboratory to accompany BIOL 254. BIOL 254 must be taken concurrently or in an earlier semester. Community Colleges only.

BIOL 260. Human Genetics  3 cr.
Human genetics for science and nonscience majors. Major topics include cell division, transmission genetics, single gene effects, sex-linked inheritance, cytogenetics, DNA structure and replication, gene expression, and recombinant DNA technology. Prerequisite: C or better in BIOL 111G or BIOL 211G.

BIOL 260 L. Human Genetics Laboratory  1 cr. (3P)
Laboratory course to accompany BIOL 260. Corequisite: BIOL 260.

BIOL 267. Introduction to Genetics and Evolution  3 cr.
Basic principles of genetics (historical background, variation, mutation, hereditly and evolution (historical background, natural selection, adaptation, speciation)). For majors and nonmajors. Prerequisite: BIOL 110G or BIOL 111G. Community Colleges only.

BIOL 271. Human Systemic Anatomy  3 cr.
Detailed study of human anatomy with emphasis in skeletal, muscular, nervous and cardiovascular systems. Designed specifically for students interested in allied health occupations. Prerequisite: consent of instructor. Corequisite: BIOL 271L or SP M 271L. Same as SP M 271. Not for biology majors.

BIOL 271 L. Human Systemic Anatomy Laboratory  1 cr.
Detailed study of human anatomy with emphasis in skeletal, muscular, nervous and cardiovascular systems. Designed specifically for students interested in allied health occupations. Prerequisite: consent of instructor. Corequisite: BIOL 271 or SP M 271. Same as SP M 271L.

BIOL 301. Principles of Ecology  3 cr.
A survey of ecology including general theory, the adaptations of organisms, population dynamics, species interactions, and the structure and function of natural communities and ecosystems. May not be offered spring semester, odd-numbered years. Prerequisite: BIOL 111G or BIOL 191G. Recommended: MATH 142G or MATH 191G and E ST 311. Same as E S 301.

BIOL 302. Molecular Biology Techniques Laboratory  3 cr. (3P)
This combined lecture and laboratory course emphasizes molecular biology laboratory practices through the hands-on application of commonly applied techniques, protocols, and equipment. The topics covered include both the fundamental development of empirical data as well as data analysis using stand-alone and web-based resources. Consent of instructor required. Prerequisite(s): BIOL 211G or equivalent.

BIOL 303. Principles of Genetics  3 cr.
Same as AGRO 305, ANSC 305, HORT 305.

BIOL 311. General Microbiology  3 cr.
Principles of physiology, molecular biology, ecology, and taxonomy of microorganisms. Not open for credit toward graduation for students who have taken BIOL 221, General Microbiology. Prerequisite: BIOL 211G.

BIOL 311 L. General Microbiology Laboratory  2 cr. (4P)
Microbiology techniques and procedures, including isolation and identification of microorganisms and biotechnology procedures that employ microorganisms. Not open for credit for students who have taken BIOL 221L. Prerequisite: BIOL 219 or BIOL 311 or concurrent enrollment.

BIOL 312. Plant Taxonomy  3 cr. (3-3P)
Classification and identification of representative plant families and local plants. Emphasis on ability to use technical sources. Saturday field trips may be recommended. Prerequisites: BIOL 111G or BIOL 190.

BIOL 313. Structure and Function of Plants  3 cr. (3-3P)
Structure, function, and survey of plants. Not open for credit toward graduation for students who have taken BIOL 220, Botany. Prerequisite: BIOL 111G or BIOL 190 and sophomore-level standing. BIOL 211G recommended.

BIOL 314. Plant Physiology  3 cr.
Photosynthesis, respiration, water relation of plants, minerals and organic nutrition, growth and development. Prerequisites: BIOL 211G and CHEM 122. Same as EPWS 314.

BIOL 314 L. Plant Physiology Lab  2 cr. (4P)
Examination of and laboratory techniques for measurement of plant water relations, solute transport, mineral nutrition, photosynthesis, enzyme activity, gene expression, nitrogen metabolism, hormone content and function, and growth / development. Corequisite: BIOL 314 or EPWS 314. Same as EPWS 314L.

BIOL 322. Zoology  3 cr. (3-3P)
Structure, function, and survey of animals. Not open for credit toward graduation for students who have taken BIOL 222, Zoology. Prerequisite: BIOL 111G or BIOL 190 and at sophomore-level standing. BIOL 211G recommended.

BIOL 330. Comparative Anatomy and Embryology  4 cr. (3-3P)
The developmental and evolutionary basis for the diversity and homology of body plans within the classes of vertebrate organisms. Laboratories will emphasize comparative dissection. Prerequisite: BIOL 190 or BIOL 111G and BIOL 211G and BIOL 322 recommended.

BIOL 340. Plant Tissue Culture Methods  3 cr.
Same as AGRO 340, HORT 340.

BIOL 350. Special Topics  1-3 cr.
Specific subjects announced in Schedule of Classes and offered as scheduled courses. May be repeated for unlimited credit.

BIOL 351. Biology Internship  1-6 cr.
Substantial off-campus experience in biology selected by student in consultation with regular biology faculty member. Internship must be approved by faculty member. Student will supply mutually agreed upon documentation of internship activities after the internship is completed. Prerequisite: 45 college credits, 2.5 or better GPA, consent of instructor. May be repeated for a maximum of 6 credits. Restricted to biology and microbiology majors. Graded S/U.

BIOL 354. Physiology of Humans  3 cr.
Principles of integrative functions in humans. A systems approach emphasizing tissues, organs, and their regulation. Not open to students who have taken BIOL 254. Prerequisite: BIOL 211G.

BIOL 354 L. Laboratory of Human Physiology  1 cr. (3P)
Laboratory to accompany BIOL 354. Not open to students who have taken BIOL 254L. Prerequisite: either BIOL 254, BIOL 381, BIOL 354, or concurrent enrollment in BIOL 354.

BIOL 373. Fungal Biology  3 cr. (3-2P)
Same as EPWS 372. Prerequisite: EPWS 310 or BIOL 311 or consent of instructor.

BIOL 377. Cell Biology  3 cr.
Fundamentals of eukaryotic cell structure, organization, and function. Emphasis on membranes, subcellular organelle systems, cytoskeleton, and cell cycle. Includes basic aspects of molecular biology. Prerequisite: BIOL 211G and BIOL 305 and either BCHE 341 or BCHE 395 (or concurrent enrollment in either biochemistry) or consent of instructor. BIOL 111G recommended.
BIOL 381. Animal Physiology 3 cr.
Principles of integrative function in animals, emphasizing tissues, organs, organ systems, and regulation. Includes adaptations of animals to their environments. Prerequisites: BIOL 211G and junior-level standing. BIOL 111G and BIOL 377 recommended.

BIOL 385. An Introduction to Cancer 3 cr.
This course will cover 3 areas of cancer research and their interdisciplinary connections: clinical cancer research, epidemiology and public health, and basic cancer research. Prerequisite(s): BIOL 305 or BIOL 377 or BCHE 341 or BCHE 385 or instructor consent.

BIOL 398. Biology Research Programs 1-3 cr.
Directed studies and research experiences, by arrangement with instructor. May be repeated for a maximum of 6 credits.

BIOL 402. Biology Honors Thesis 1-3 cr.
Provides guidance in how to write a scientific paper in the sciences. Students will produce an honors thesis based on previous independent research. Prerequisite: Consent of instructor.

Principles and use of light microscope, transmission and scanning electron microscope, specimen preparation techniques, thick and ultrathin sectioning, analysis of micrographs.

BIOL 408. Ecology of Plants 3 cr.
Controlling factors, succession, community dynamics, and the classification of vegetation. Prerequisite: BIOL 301.

BIOL 411. Principles of Plant Taxonomy 1 cr.
Examination of principles of classification through use of lecture, discussion, reports and reading of primary literature. Students will take, or will have taken, BIOL 312 or equivalent to relate theory and practice. Prerequisite: BIOL 111G or BIOL 190. Corequisite: BIOL 312.

BIOL 412. Seminar in Microbiology 1 cr.
Seminar to aid students in assessment and presentation of current topics in microbiology. Prerequisites: BIOL 311 and BIOL 311L. Graded S/U.

BIOL 423. Primate Adaption and Evolution 3 cr.
Survey of the adaptations and evolutionary history of non-human primates. Consent of instructor required.

BIOL 424. Human Osteology 3 cr.
Survey of the functional, developmental, and evolutionary biology of the human skeleton. Anatomical connections: clinical cancer research, epidemiology and public health, and basic cancer research. Prerequisite: BIOL 211G. BIOL 305 recommended.

BIOL 427. Morphology, life histories, systematics, ecology, and behavior of birds. Prerequisite: BIOL 111G, BIOL 190 or BIOL 211G. BIOL 322 recommended.

BIOL 428. Ornithology 4 cr. (3+3P)
Survey, ecology, behavior and physiology. Prerequisite: BIOL 111G or BIOL 190 and junior-level standing. BIOL 322 recommended.

BIOL 433. Insect Biology 3 cr.
Classification, structure, physiology, and evolution of insects. Prerequisite: BIOL 111G or BIOL 190 and junior-level standing. BIOL 322 recommended.

BIOL 434. Insect Identification 1 cr. (3P)
Collection and identification of insect orders and families. Not open to students who have taken EPWS 302 or EPWS 363. Same as EPWS 433L.

BIOL 435. Cell Biology Current Topics 2 cr.
Seminars and discussions on current topics in cell biology. May be repeated for a maximum of 8 credits.

BIOL 447. Herpetology 4 cr. (3-3P)
The ecology, behavior, systematics, morphology, and conservation of amphibians and reptiles. Field trip recommended. Prerequisite: BIOL 111G, BIOL 190, or BIOL 211G. BIOL 322 recommended.

BIOL 448. H. Senior Thesis 2 cr.
Two-semester research on a selected problem. Includes a written paper and an oral examination. Open to senior biology majors with an overall GPA of 2.5 or better and consent of faculty.

BIOL 450. Special Topics 1-3 cr.
Specific subjects announced in the Schedule of Classes and offered as scheduled courses. May be repeated for unlimited credit.

BIOL 451. Physiology of Microorganisms 3 cr.
Aspects of cellular physiology unique to prokaryotes. Prerequisites: Consent of instructor.

BIOL 454. Biology of Respiration 3 cr.
How aquatic and terrestrial animals obtain oxygen and dispose of carbon dioxide. Includes respiratory-system structures and functions, gas-exchange and gas-transport mechanisms, and control systems. Emphasizes animals that live or travel in extreme environments. Prerequisite: BIOL 211G. BIOL 301 recommended.

BIOL 462. Conservation Biology 3 cr.
Examination of the value of biological diversity, the natural processes that control biological diversity, and the ways in which human activities have resulted in the loss of biological diversity, both regionally and globally. Prerequisite: BIOL 301.

BIOL 464. Invertebrate Zoology 4 cr. (3+3P)
Survey, ecology, behavior and physiology. Prerequisite: BIOL 111G or BIOL 190 and junior-level standing. BIOL 322 recommended.

BIOL 466. Invertebrate Zoology Field Trip 1 cr.
A one-week field trip for the study of marine invertebrates. Registrants must provide own camping gear. Prerequisite: BIOL 465 or equivalent (or concurrent enrollment) or consent of instructor. Graded S/U.

BIOL 467. Evolution 3 cr.
Covers theory, historical background, population variation, natural selection, adaptation, speciation. May not be offered spring semester, even-numbered years. Prerequisite: BIOL 111G or BIOL 190 and BIOL 305.

BIOL 470. Developmental Biology 3 cr.
The purpose of this course is to introduce students to the principles that govern the development of a single fertilized egg cell into a complex multicellular organism. These principles, and often the molecular mechanisms by which they are accomplished, appear to be universal for all multicellular organisms including both plants and animals. We will explore issues such as: how cells become committed to particular cell fates and how this commitment is maintained; how organs acquire particular shapes, sizes and positions; the developmental causes of some human diseases; how the environment affects development; and, how changes in development provide the material basis for evolutionary change. Prerequisites: BIOL 211G, BIOL 305.

BIOL 471. Molecular and Cellular Mycology 3 cr.
Exploration of the world of fungi with emphasis on fungal molecular biology and development. Including discussion of fungal taxonomy and genomics. Prerequisites: BIOL 311 required, BCHE 341 or BIHE 395 recommended, or consent of instructor.

BIOL 472. Primate Behavior and Ecology 3 cr.
Survey of the social behavior and ecology of nonhuman primates.

BIOL 473. Ecology of Microorganisms 3 cr. (2-3P)
The metabolic interactions of microorganisms in the environment, with emphasis on their roles in ecological processes. Prerequisites: BIOL 311 or consent of instructor.

BIOL 474. Immunology 3 cr.
Basic concepts of the immune response. Prerequisites: BIOL 305 and CHEM 211 or CHEM 313.

BIOL 475. Virology 3 cr.
Mechanisms of viral infections of animals and man. Prerequisites: BIOL 311, and either BCHE 341 or BCHE 395.

BIOL 476. Soil Microbiology 3 cr.
Same as SOIL 476.

BIOL 476 L. Soil Microbiology Laboratory 1 cr. (3P)
Same as SOIL 476L. 
BIOL 477. Applied and Environmental Microbiology 4 cr.
A lecture-laboratory course on the microorganisms and the reactions they mediate which either impact the environment or have industrial applications. Reading of current literature will be emphasized. Topics include bioremediation, water quality, and aspects of industrial and food microbiology. Prerequisite: BIOL 311, and 311L, or consent of instructor.

BIOL 478. Molecular Biology of Microorganisms 3 cr.
The biochemical basis for gene mutation, recombination, and expression with emphasis on prokaryotes. Includes fundamentals of recombinant DNA technology. Prerequisites: BIOL 305, BIOL 311, and either passage or concurrent enrollment in BCHE 341 and BCHE 395.

BIOL 479. Medical Microbiology 3 cr.
An in-depth overview of microbial pathogens associated with human infectious disease. Etiological agents, pathogenesis, and processes leading to the disease state and the therapies of infectious disease. Prerequisite: BIOL 474 recommended.

BIOL 479 L. Medical Microbiology Laboratory 1 cr.
Overview of common procedures used by medical microbiologists to identify agents of disease or microbial pathogen traits. Prerequisite: BIOL 479 or concurrent enrollment.

BIOL 482. Microbial Systematics 2 cr.
Systematics of prokaryotic organisms, and consideration of fungi and protists. Integration of morphological, biochemical, molecular, and genetic information in determining group relationships. Problems encountered when applying classic systematic principles to organisms without significant contribution of sexual reproduction. Prerequisites: BIOL 311 (or equivalent) and consent of instructor.

BIOL 484. Animal Communication 3 cr.
An examination of how animals produce and perceive signals, what factors influence the form of signals in different sensory modalities, and how conflicts between senders and receivers affect signaling strategies. Weekly discussion from the primary literature and group research projects.

BIOL 487. Advanced Cell Biology 4 cr. (3+1P)
Same as BIOL 377 but also includes weekly discussions on current topics, methodology and ethical issues in modern cell biology. Scientific writing skills will be emphasized. Prerequisites: BIOL 211G and BIOL 305 and either BCHE 341 or BCHE 395 (or concurrent enrollment in either biochemistry) or consent of instructor. BIOL 111L recommended.

BIOL 488. Principles of Conservation Genetics 3 cr.
Fundamentals of the genetics of small populations. Genetic technologies used in studying small populations. Application of genetics and evolution to the conservation of biological populations. Prerequisite: BIOL 305.

Basic theory of population genetics and how that theory has guided, and been influenced by, studies of natural populations. Prerequisite: BIOL 305 or equivalent.

BIOL 490. Neurobiology 3 cr.
Fundamentals of neurobiology with an emphasis on properties of neurons and glia, principles of synaptic transmission, development of nervous system and organization of motor and sensory systems. Prerequisites: BIOL 211, BIOL 305, MATH 142G, or MATH 191G, and CHEM 211 or CHEM 313.

BIOL 495. Seminar in Developmental Biology 1-3 cr.
Genetic principles with special reference to chromosome systems, their function in inheritance, and their evolution.

BIOL 499. Biology Research Programs 1-3 cr.
Directed studies and research experiences, by arrangement with instructor. May be repeated for a maximum of 6 credits.

Introduction to law in general and application to business specifically; comprehensive study of the law of contracts; and the principal and agent relationship. Offered at all NMSU Community Colleges except Dona Ana Community College. Credit may not be earned in both BLAW 230 and BLAW 317.

BLAW - BUSINESS LAW
BLAW 313. Sports and the Law 3 cr.
Introduction to legal concepts related to sports and business including an introduction to U. S. law and the civil practice, agency, sports contracts, sport torts, sport crimes, pertinent federal legislation such as Title IX, drugs and sports, international sports issues, pertinent antitrust issues, intellectual property, ethics and alternative dispute resolution.

BLAW 316. Legal Environment of Business 3 cr.
Survey of business law including: the legal system (court systems, sources and types of law, litigation and dispute resolution), ethics and corporate social responsibility, administrative law, tort law, contract law, agency and employment law, business structure and governance, securities regulations, and international law. Students may not receive credit for both BLAW 316 and BLAW 317.

BLAW 325. Real Estate Principles and Law 3 cr.
Same as FIN 325.

BLAW 390V. Consumers and the Law 3 cr.
Study of the interrelationships between business, legal, and ethical aspects of consumer issues and their attendant civil liability and remedies in domestic and international markets.

BLAW 391. Business Law Internships and Cooperative Education 1-3 cr.
Integration of academic studies and principles of business law in a relevant work experience. The amount of academic credit (1 to 3 credit hours) will be determined at the time of enrollment by the department head or supervising instructor based upon the duration of the work experience and the scope of the academic requirements. Prerequisites: BUSA 111, one BLAW course and consent of instructor. May be repeated for a maximum of 3 credits.

BLAW 418. Uniform Commercial Code and Advanced Business Law Topics 3 cr.
Property, advanced contract law, debtor-creditor relations, bankruptcy and Uniform Commercial Code topics including sales, negotiable instruments, secured transactions and documents of title. Students who have taken BLAW 316 may not receive credit for BLAW 418. Prerequisite: BLAW 316.

BLAW 440. Health Care Law 3 cr.
Examination of legal issues relevant to health care administrators and other health care providers including: medical malpractice, informed consent, labor law issues, medical records and confidentiality, hospital corporate negligence and reimbursement and payment issues.

BLAW 490. Selected Topics 1-3 cr.
Prerequisites vary according to the seminar being offered.

BLAW 498. Independent Study 1-3 cr.
Individual studies directed by consenting faculty with the prior approval of the department head. Prerequisites: junior or above standing and consent of instructor and department head.

BMGT-BUSINESS MANAGEMENT
BMGT 110. Introduction to Business 3 cr.
Terminology and concepts of the business field. Role of accounting, computers, business management, finance, labor, and international business in our society. Restricted to: Community College campuses only.

BMGT 112. Principles of Banking 3 cr.
Banking in today’s economy: language and documents of banking, check processing, teller functions, deposit function, trust services, bank bookkeeping, loans, and investments. Restricted to: Community College campuses only.

BMGT 126. Retail Management 3 cr.
Phases of retailing, including types of retail outlets and basic problems of organizing and operating a retail store. Restricted to: Community College campuses only.

BMGT 132. Principles of Selling 3 cr.
Analysis of customer behavior, persuasive communication, process of the sales interview. Restricted to: Community College campuses only.

BMGT 136. Fundamentals of Buying and Merchandising 3 cr.
Covers operational aspects of procuring and selling merchandise for the retail store. Procedures covered are buying, receiving, pricing strategies, sales promotions and operational controls. Restricted to: Community College campuses only.

BMGT 138. Advertising 3 cr.
Psychological approach to non-personal consumer persuasion; applied techniques in media selection, layout mechanics, production methods, and campaign structures. Restricted to: Community College campuses only.

BMGT 140. Principles of Supervision I 3 cr.
Principles of supervision emphasizing planning, organization, rating of employees and procedures to develop good morale. Introduction to interpretation of case studies. Restricted to: Community College campuses only.

BMGT 150. Income Taxation 3 cr.
Federal income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates with particular reference to CLU, life insurance and annuities. Restricted to: Community College campuses only.
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<th>Course Code</th>
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<tbody>
<tr>
<td>BMGT 155</td>
<td>Special Topics I</td>
<td>1-3 cr.</td>
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<tr>
<td>BMGT 160</td>
<td>Self-Presentation and Etiquette</td>
<td>3 cr.</td>
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<td>BMGT 170</td>
<td>Spanish for the Business Paraprofessional I</td>
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<td>BMGT 171</td>
<td>Spanish for the Business Paraprofessional II</td>
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<td>BMGT 172</td>
<td>Introduction to Business Finance</td>
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<td>BMGT 191</td>
<td>Students in Free Enterprise</td>
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<td>BMGT 200</td>
<td>Career Management</td>
<td>1 cr.</td>
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<tr>
<td>BMGT 201</td>
<td>Work Readiness and Preparation</td>
<td>2 cr.</td>
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<tr>
<td>BMGT 202</td>
<td>Applied English</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 203</td>
<td>Customer Service Practices/Techniques</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 204</td>
<td>Marketing</td>
<td>3 cr.</td>
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<td>BMGT 205</td>
<td>Marketing</td>
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<td>BMGT 206</td>
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<td>BMGT 208</td>
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<td>BMGT 209</td>
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<td>BMGT 210</td>
<td>Marketing</td>
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<tr>
<td>BMGT 211</td>
<td>Marketing for Bankers</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 212</td>
<td>Supervisory and Leadership Trends</td>
<td>3 cr.</td>
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<td>BMGT 213</td>
<td>Consumer Lending</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 214</td>
<td>Consumer Lending</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 215</td>
<td>Banks and the Money Supply</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 216</td>
<td>Business Math</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 217</td>
<td>Cooperative Experience I</td>
<td>1-3 cr.</td>
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<tr>
<td>BMGT 218</td>
<td>Supervision and Labor Relations</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 219</td>
<td>Introduction to Commercial Lending</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 221</td>
<td>Legal Issues in Business</td>
<td>3 cr.</td>
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<td>BMGT 222</td>
<td>Personal Finance</td>
<td>3 cr.</td>
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<td>BMGT 223</td>
<td>Law and Banking</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 224</td>
<td>Credit Administration</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 225</td>
<td>Visual Marketing Techniques</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BMGT 226</td>
<td>Human Relations</td>
<td>3 cr.</td>
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<td>BMGT 227</td>
<td>Bank Investments</td>
<td>3 cr.</td>
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<tr>
<td>BMGT 228</td>
<td>Introduction to Quality Management</td>
<td>3 cr.</td>
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**Notes:**
- **BMGT 155:** Introductory special topics of lower division level work that provides a variety of timely subjects and content material. May be repeated up to 9 credits. Restricted to: Community College campuses only.
- **BMGT 160:** Emphasis on developing the oral ability of Spanish native-speakers for use in the local and border business community. Prerequisite(s): BMGT 110 and native or near-native speakers of Spanish. Restricted to: Community College campuses only.
- **BMGT 170:** Emphasis on developing the oral ability of Spanish native-speakers for use in the local and border business community. Prerequisite(s): BMGT 110 and native or near-native speakers of Spanish. Restricted to: Community College campuses only.
- **BMGT 171:** Develop oral and reading abilities of native or near-native speakers of Spanish as it relates to the human resources department of small or large businesses; interacting effectively with Spanish-speaking clientele in their own business. Prerequisite(s): BMGT 110 and BMGT 170. Restricted to: Community College campuses only.
- **BMGT 172:** Understanding financial systems and the methods businesses use to acquire and use resources is an important tool for the managers. This course provides an overview of the financial inner workings of businesses and corporations. Restricted to: Community College campuses only.
- **BMGT 191:** Students in Free Enterprise is an international organization promoting and teaching business entrepreneurship. Students will learn teamwork, leadership, and networking skills by participating in regional and international business competitions and community service projects. May be repeated for a maximum of 6 credits. Restricted to: Community College campuses only. Restricted to BMGT majors.
- **BMGT 200:** Developing and implementing career plans through decision making framework to gain personal success and satisfaction within today’s social and global workforce. Consent of instructor required. Restricted to: Community College campuses only.
- **BMGT 201:** Instruction in methods of selection, seeking, acquiring and retaining employment. Addresses work success skills, business etiquette, employer expectation and workplace norms. Restricted to: Community College campuses only.
- **BMGT 202:** Developing and implementing career plans through decision making framework to gain personal success and satisfaction within today’s social and global workforce. Consent of instructor required. Restricted to: Community College campuses only.
- **BMGT 203:** Application of English skills to the workplace. Effective writing of business communications and forms. Emphasis on clarity, correctness, and conciseness. Restricted to: Community College campuses only.
- **BMGT 204:** Techniques to attract and keep customers: communications, phone skills, handling customer complaints. Restricted to: Community College campuses only.
- **BMGT 205:** Role of marketing in economy, types of markets, product development, distribution channels, pricing, promotion of goods, market research, consumer motivation, and management of marketing process. Prerequisite(s): BMGT 110. Restricted to: Community College campuses only.
- **BMGT 206:** Concepts and philosophies of marketing: information, research, target, the marketing mix, and market planning. Prerequisite(s): BMGT 112. Restricted to: Community College campuses only.
- **BMGT 207:** Current trends in marketing, merchandising, sales promotion and management; in manufacturing, merchandising and service types of businesses. Extensive use of practical student project. Prerequisite(s): BMGT 140. Restricted to: Community College campuses only.
- **BMGT 208:** Principles of credit evaluation, types of credit, marketing, collections, legal aspects, installment lending, leasing management, insurance, and rate structure and yields. Prerequisite(s): BMGT 112. Restricted to: Community College campuses only.
- **BMGT 209:** Practical application of the economics of money and banking. Required of all students electing the banking option. Restricted to: Community College campuses only.
BMGT 260. Diversity in the Workplace 3 cr.
Concepts of culture, diversity, prejudice, and discrimination within the domestic workforce/society. Prerequisite(s): BMGT 110. Restricted to: Community College campuses only.

BMGT 255. Special Topics II 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits. Restricted to: Community College campuses only.

BMGT 258. Cash, Inventory, and Credit Control 3 cr.
Cash and inventory control and management; credit management. Consent of instructor required. Prerequisite(s): Consent of instructor. Restricted to: Community College campuses only.

BMGT 259. Budget and Cost Control 3 cr.
Standard costs, variable costing, absorption costing, formal budgeting process, responsibility accounting for cost and profit centers, inventory management techniques, risk adjusted capital budgeting, cash management, credit management, internal checks. Consent of instructor required. Prerequisite(s): Consent of instructor. Restricted to: Community College campuses only.

BMGT 260. Real Estate Practice 3 cr.
Covers the real estate market, real property ownership and interest, deeds and descriptions, property transfers, contracts, finance and appraising, license law, agency law, and contract law. Restricted to: Community College campuses only.

BMGT 261. Real Estate Appraisal 3 cr.
Principles and techniques of residential real estate appraisal. Not designed to train individuals as independent fee appraisers. Restricted to: Community College campuses only.

BMGT 262. Real Estate Sales Techniques 3 cr.
Improvement of sales techniques; the selling process, negotiation skills, objection handling and closing, business planning, goal setting, and effective application of marketing techniques. Restricted to: Community College campuses only.

BMGT 264. Real Estate Law 3 cr.
Case studies based on court interpretation of civil actions involving contract law and agency laws; rights and obligations of the real estate agent with regard to contractual and fiduciary duties owed to the parties represented. Cases taken primarily from New Mexico. Restricted to: Community College campuses only. Crosslisted with: PL S 264

BMGT 265. Real Estate Finance 3 cr.
Financing real property, the money market, sources and cost determinants of mortgage money, financial leverage, value of existing mortgages in relation to the current market, and purchaser qualification. Restricted to: Community College campuses only.

BMGT 266. Commercial Property Appraisal and Evaluation 3 cr.
Evaluation and financial appraisal of commercial real property preparatory to the sale process is an important skill for real estate developers and managers. Information concerning land and building evaluation will be covered. Standard Techniques for valuation and commercial sites will be presented. Evaluation and financial appraisal of commercial real property preparatory to the sales process is an important skill for real estate developers and managers. Information concerning land and building evaluation will be covered. Standard Techniques for valuation and commercial sites will be presented. Consent of instructor required. Restricted to: Community College campuses only.

BMGT 267. Real Estate Broker’s Basic Course 3 cr.
State of New Mexico specific criteria that apply to real estate licensure: purchase agreements, listing agreements, New Mexico Rules and Regulations, and landlord tenant legislation. Prerequisite(s): BMGT 260 & BMGT 264. Restricted to: Community College campuses only.

BMGT 269. International Financial Lending Practices 3 cr.
This course describes the functions of the global financial marketplace emphasizing their interactions and interconnectedness. Lending practices and their impact on development and growth are discussed. Consent of instructor required. Restricted to: Community College campuses only.

BMGT 270. Urban Development and Renewal 3 cr.
This course describes the basic functions and considerations for planners and developers when undertaking urban development and renewal projects. Attention is given to environmental, social, and economic factors. Consent of instructor required. Restricted to: Community College campuses only.

BMGT 271. Practical Applications for Microcomputers in Business 1-3 cr.
Owner/manager approach to use of microcomputers: systems design, software, business applications such as inventory, balance sheets, accounts receivable. Hands-on experience. May be repeated for a maximum of 6 credits under different subtitles. Preference given to BMGT majors. Prerequisite(s): C S 110, ACCT 251 and BMGT 216. Restricted to: Community College campuses only.

BMGT 272. E-Commerce Operations 3 cr.
Introduces the many forms of e-commerce and emerging technologies that will impact the businesses of tomorrow. Prerequisite(s): DECS 105, CS 110G or CS 110G. Restricted to: Community College campuses only.

BMGT 273. Principles of International Hotel Development and Management 3 cr.
Developing and managing hotel properties in the international arena requires skills beyond those needed to manage a domestic property. These requisite skills will be addressed as well as the challenges of property development in an international setting. Consent of instructor required. Restricted to: Community College campuses only.

BMGT 274. Business Start-up: Orientation for Entrepreneurs 3 cr.
Teaches the skills to effectively conceive, plan and open a business. Initial course in a series aimed at preparing individuals to start and run their own business. Restricted to: Community College campuses only.

BMGT 275. Small Business Planning 3-4 cr.
How to start a small business based on a formal business plan. Includes feasibility study and legal requirements. Restricted to: Community College campuses only.

BMGT 276. Advanced Business Plan Development 3 cr.
Preparing a detailed business plan as the first step in creating a successful business. Prerequisite(s): BMGT 274 or consent of instructor. Restricted to: Community College campuses only.

BMGT 277. Small Business Management 3 cr.
Study of the principles, advantages, and problems of owning or operating a small business. Location, capital, marketing, control, and sales promotion. Prerequisite(s): BMGT 110. Restricted to: Community College campuses only.

BMGT 278. Introduction to Human Resources 3 cr.
Personnel functions encompassing job analysis, recruitment, selection, training, appraisals, discipline, and terminations. Prerequisite(s): BMGT 110. Restricted to: Community College campuses only.

BMGT 279. Introduction to International Business Management 3 cr.
Overview of the social, economic and cultural environment of international business transactions. Prerequisite(s): BMGT 110. Restricted to: Community College campuses only.

BMGT 280. Introduction to Manufacturing Operations 3 cr.
Introduction to issues related to manufacturing, including an overview of the production function, product design and development, location, layout, forecasting, planning, purchasing, materials/inventory, and quality management. Prerequisite(s): BMGT 110 and BMGT 140. Restricted to: Community College campuses only.

BMGT 281. Introduction to Logistics 3 cr.
Overview on the planning, organizing, and controlling of transportation, inventory maintenance, order processing, purchasing, warehousing, materials, handling, packaging, customer service standards, and product scheduling. Restricted to: Community College campuses only.

BMGT 282. Introduction to Export/Import 3 cr.
Procedures and documentation for exporting and importing products. Emphasis on NAFTA regulations and other U.S. border operations crossings. Prerequisite(s): BMGT 110 and BMGT 262. Restricted to: Community College campuses only.

BMGT 283. Applied Business Capstone 3 cr.
Refines skills and validates courses taken in BMGT program. Business simulations, case studies and projects used to test and improve business practices. Student must be within 25 credits of graduation. Prerequisite(s): BMGT 110, BMGT 140, BMGT 210, BMGT 231 and BMGT 221. Restricted to: Community College campuses only.

BMGT 284. Independent Study 1-3 cr.
Individual studies directed by consenting faculty with prior approval of department chair. Maximum of 6 credits may be earned. Prerequisite(s): Sophomore standing with 3.0 GPA. Restricted to: Community College campuses only.

BOT 101. Keyboarding Basics 3 cr. (2+2P)
Covers correct fingering and mastery of the keyboard to develop skillful operation. Formatting basic business letters, memos, and manuscripts.

BOT - BUSINESS OFFICE TECHNOLOGY
BOTS. Keyboarding: Document Formatting 3 cr. (2+2P)
Designed to improve keyboarding speed and accuracy; introduce formats
of letters, tables and reports. A speed and accuracy competency require-
ment must be met. Prerequisite: BOT 101 or consent of instructor.

BOTS. Business English I 3 cr.
Training and application of the fundamentals of basic grammar, capitaliza-
tion and sentence structure (syntax).

BOTS. Business Mathematics 3 cr. (2+2P)
Mathematical applications for business, including training in the touch
method of the 10-key calculator. Prerequisite: CCDM 150 or adequate
score on math placement exam.

BOTS. Business English II 3 cr.
Training and application of the fundamentals of punctuation, numbers,
basic writing and editing skills. Prerequisite: C or better in BOT 105.

BOTS. Records Management 3 cr.
Principles, methods and procedures for the selection, operation and con-
trol of manual and automated records systems.

BOTS. Speedwriting Shorthand I 3 cr. (2+2P)
Principles of speedwriting shorthand and an introduction to dictation and
transcription. Prerequisite: minimum keyboarding speed of 30 wpm and C
or better in BOT 105 or BOT 109.

BOTS. Introduction to Business Office Technology 3 cr.
Departmental procedures, study skills, time and stress management,
professionalism, interpersonal relations, career opportunities, campus and
community resources for beginning students.

BOTS. Microcomputer Keyboarding 2 cr. (1+2P)
Efficient use of the computer keyboard. Covers the alphabet, number, and
symbol keyboards. Individualized approach with interactive software.

BOTS. Accounting Procedures I 3 cr. (2+2P)
Business accounting principles and procedures. Use of special journals,
cash control, and merchandising concepts. Reports for sole proprietor-
ships.

BOTS. Accounting Procedures II 3 cr. (2+2P)
Continuation of BOTS 101, emphasizing accounting principles and proce-
dures for notes and interest, depreciation, partnerships and corporations,
cash flow and financial statement analysis. Prerequisite: BOT 120.

BOTS. Beginning Typing: Level I 1 cr. (2P)
Presentation of the touch method of typing.

BOTS. Beginning Typing: Level II 1 cr. (2P)
Continuation of BOT 122.

BOTS. Beginning Typing: Level III 1 cr. (2P)
Continuation of BOT 123.

BOTS. Beginning Typing: Level IV 1 cr. (2P)
Continuation of BOT 124.

BOTS. Intermediate Typing: Level I 1 cr. (2P)
Continuation of BOT 125.

BOTS. Intermediate Typing: Level II 1 cr. (2P)
Continuation of BOT 126.

BOTS. Intermediate Typing: Level III 1 cr. (2P)
Continuation of BOT 127.

BOTS. Intermediate Typing: Level IV 1 cr. (2P)
Continuation of BOT 128.

BOTS. Advanced Typing: Level I 1 cr. (2P)
Presentation of advanced typing. Continuation of BOT 129.

BOTS. Advanced Typing: Level II 1 cr. (2P)
Continuation of BOT 130.

BOTS. Advanced Typing: Level III 1 cr. (2P)
Continuation of BOT 131.

BOTS. Advanced Typing: Level IV 1 cr. (2P)
Continuation of BOT 132.

BOTS. Keyboarding Technique Review 3 cr.
Emphasis on improving keyboarding speed and accuracy. Prerequisite:
BOT 101 or equivalent.

BOTS. Payroll Accounting 3 cr. (2+2P)
Payroll procedures including payroll tax forms and deposits. Prerequisite:
BOT 120 or consent of instructor.

BOTS. Medical Terminology 3 cr.
Understanding of the basic elements of medical words. Use of medical
abbreviations. Same as NURS 150 and OEH 120.
BOT 208. Medical Office Procedures 3 cr. (2+2P) Records and procedures as applicable to medical offices. Prerequisites: BOT 108, BOT 211, and OEHO 120.

BOT 209. Business and Technical Communications 3 cr. Effective written communication skills and techniques for career success in the workplace. Composition of letters, memos, short reports, forms, and proposals, and technical descriptions and directions. Prerequisites: ENGL 111G and computer keyboarding ability or consent of instructor.

BOT 210. Introduction to the Automated Office 3 cr. Applications of integrated business software packages. Prerequisite: BOT 101 or consent of instructor. Same as DECS 212.

BOT 211. Information Processing I 3 cr. (2+2P) Defining and applying fundamental information processing concepts and techniques using the current version of leading software. Prerequisites: Keyboarding proficiency as demonstrated through completion of BOT 122, BOT 123, and BOT 124 or BOT 101 or equivalent. May be repeated for a maximum of 6 credits under different subtitles listed in the Schedule of Classes.

BOT 212. Legal Office Procedures II 3 cr. (2+2P) A continuation of BOT 201 with advanced study of legal practices. Prerequisites: BOT 201. Same as PL S 212.

BOT 213. Word Processing I 3 cr. (2+2P) Operation and function of a word processor. Specific equipment to be announced in the Schedule of Classes. Prerequisite: BOT 101 or keyboarding proficiency as demonstrated through completion of BOT 122, BOT 123, and BOT 124 or equivalent.

BOT 214. Word Processing II 3 cr. (2+2P) Advanced operation and functions of a word processor. Specific equipment to be announced in the Schedule of Classes. Prerequisite BOT 213 or consent of instructor.

BOT 215. Spreadsheet Applications 1-3 cr. Same as DECS 215. May be repeated under different subtitles listed in the Schedule of Classes.

BOT 217. Powerpoint Presentation 3 cr. Comprehensive, hands-on approach to learning and applying basic and advanced features of PowerPoint. These include text enhancements, objects, fills, colors, animation, charts, sound, video, and hyperlinks. Students demonstrate appropriate audience and communication tools to deliver presentations. Prerequisites: BOT 211 or ability to demonstrate keyboarding and Windows proficiency.

BOT 218. Information Processing II 3 cr. (2+2P) Advanced information processing techniques using current version of leading software. Prerequisite: BOT 211 or consent of instructor. May be repeated for a maximum of 6 credits.

BOT 219. Information Processing III 3 cr. (2+2P) Advanced information processing integrating databases, spread-sheets, and other applications in a network environment. Prerequisite: BOT 218 or consent of instructor.

BOT 220. Internship in Business Office Technology 2 cr. Experience in a supervised office position. Student must work at least eight hours per week. Prerequisites: sophomore standing and consent of instructor. May be repeated for a maximum of 4 credits.

BOT 221. Cooperative Experience I 1-3 cr. Student employed at approved work site; supervised and rated by employer and instructor. Each credit requires specified number of hours of on-the-job work experience. Prerequisite: consent of instructor. Graded S/U. Restricted to BOT majors.

BOT 222. Cooperative Experience II 1-3 cr. Continuation of BOT 221. Prerequisites: BOT 221 and consent of instructor. Graded S/U.

BOT 223. Medical Transcription I 3 cr. (2+2P) Introductory machine transcription for the medical office using medical terminology. Prerequisites: NURS 150 or OEHO 120 or BOT 150, and BIOL 101L or OEHO 100 or consent of instructor.

BOT 225. Medical Transcription II 3 cr. (2+2P) Study of machine transcription for the medical office using medical terminology. Continuation of BOT 223. Prerequisite: BOT 223.

BOT 228. Medical Insurance Billing 3 cr. Overview of the insurance specialists role and responsibilities. Emphasis on diagnostic and procedural coding and the claims processing cycle. Prerequisite: NURS 150 or OEHO 120 or BOT 150 and OEHO 100 or BIOL 101L or BOT 208 or consent of instructor. May be repeated for a maximum of 6 credits.

BOT 233. Advanced Medical Transcription 3 cr. (2+2P) Builds upon the concepts introduced in Medical Transcription providing greater understanding of how to produce advanced reports of physician dictation with increasing speed and accuracy. Emphasis will be on proof-reading and editing of operative reports, patient history and physicals, office notes, labor and delivery reports, consultation reports, discharge summaries, and other medical reports. Prerequisite(s): BOT 223. Restricted to: All Community Colleges.

BOT 238. Office Management 3 cr. Analysis and control of various office procedures; automation; human relations problems; work simplification, systems analysis; management viewpoint emphasized.

BOT 242. Not-for-Profit Accounting 3 cr. Accounting concepts of government and nongovernmental not-for-profit entities. Discussion of fund accounting principles and financial statement preparation. Prerequisites: BOT 120 and BOT 121 or ACCT 201 and ACCT 202.

BOT 247. Civic Involvement in Tax Preparation 1-3 cr. Prepare individual tax returns applying current tax code. Each credit requires specific number of volunteer hours at a designated New Mexico Tax Coalition site. Prerequisite(s): BOT 246. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

BOT 248. Medical Coding I 3 cr. (2+2P) Continuation of BOT 228. Emphasis is on the most recent revisions of ICD-9-CM. In depth study of the ICD-9/10-CM coding conventions and principles. Prerequisite: BOT 228.

BOT 294. Tax Preparation 3 cr. Introduces basic federal and state tax codes for preparing individual income tax returns. Emphasis on use of tax software. Prerequisite: keyboarding proficiency.

BOT 246. Tax Recertification 1 cr. Review changes in the tax code and tax software for preparing federal and state individual income tax returns. Prerequisite: BOT 244. May be repeated for a maximum of 6 credits.

BOT 250. Electronic Office Systems 3 cr. (2+2P) Management of the electronic office. Office use of computers, printers, fax machines, copiers, and scanner concepts will be covered. Prerequisite: BOT 211.

BOT 253. Advanced Medical Transcription 3 cr. Builds upon the concepts introduced in Medical Transcription providing greater understanding of how to produce advanced reports of physician dictation with increasing speed and accuracy. Emphasis will be on proof-reading and editing of operative reports, patient history and physicals, office notes, labor and delivery reports, consultation reports, discharge summaries, and other medical reports. Prerequisite: BOT 223. Community Colleges only.

BOT 255. Special Topics 1-4 cr. Specific subjects to be announced in the Schedule of Classes.

BOT 258. Medical Coding II 3 cr. (2+2P) Continuation of BOT 228, and Medical Coding I. Emphasis is on the most recent revision of ICD-10-CM, CPT-4, and DSM-IV. Continued study in the ICD-9/10-CM coding conventions and principles and in depth the CPT-4, HCPCS, and DSM-IV coding convention and principles. Designed as a medical coding capstone course. Prerequisite(s): BOT 228 AND BOT 246. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

BOT 259. CPT Coding I 3 cr. Introduction to CPT coding. Emphasis on the most recent revisions of CPT coding. In depth study of CPT coding conventions and principles. Designed as a medical coding capstone course. Prerequisite: BOT 249.
BOT 200. Layout and Design I 3 cr. (2+2P)
Design and production of publication and presentation materials to fill
the needs of business communities. Prerequisite: BOT 211 or consent of
instructor. May be repeated for a maximum of 6 credits.

BOT 261. Layout and Design II 3 cr.
Continuation of BOT 200. Refining skills in techniques and design for both
traditional and electronic publishing. Prerequisite: BOT 280 or equivalent.
May be repeated for a maximum of 6 credits.

BOT 285. Computer Illustration 3 cr. (2+2P)
Preparing computer graphics through a draw program for use in advertis-
ing, publications, and multimedia presentations. Prerequisite: working
knowledge of Windows environment or consent of instructor. May be
repeated for a maximum of 6 credits.

BOT 298. Independent Study 1-3 cr.
Individual studies directed by consenting faculty with prior approval of
department head. Prerequisite: sophomore standing with 3.0 GPA. May be
repeated for a maximum of 3 credits.

BUS- A BUSINESS ADMINISTRATION AND ECONOMICS

BUS 111. Business in a Global Society 3 cr.
Overview of the global environment of business and the development of
business as an integrative, cross-disciplinary activity. Prerequisite: BCS
110G or CS 110 or concurrent enrollment.

Integrative approach to envisioning the future and shaping strategies for
business success. Prerequisites: BCIS 338 or 350; BLAW 313 or 316 or 317;
FIN 341; MGT 399; BUSA 365 or MKTG 303; and one of the following: MGT
344 or MGT 470 or BCIS 485.

C D- COMMUNICATION DISORDERS

Failure to pass any single class in the C D curriculum precludes taking any
additional C D coursework until the class has been retaken and successfully
completed. Be aware that the prerequisites for the courses listed below may also have
prerequisites. All prerequisites must be satisfied before registering for a class.
Students may be dropped from a class if prerequisites are not satisfied.

C D 221. Introduction to Communication Disorders 3 cr.
Basic information about speech, language, and hearing disorders; orienta-
tion to the professions of speech-language pathology and audiology.

C D 321. Clinical Methods 3 cr.
Introduction to clinical methods and supervised clinical observation of
speech, language, and hearing services. Includes the oral and written
competency exam that students must pass before enrolling in C D 462.
Prerequisites: C or better in C D 221, C D 360/C D 509 and minimum 3.0 GPA,
or consent of instructor. Restricted to majors.

C D 360. Language Acquisition 3 cr.
Normal development of communication across the age span. Includes
language sampling. Taught with C D 509. Restricted to CD Majors and LING
Majors majors.

C D 365. Language Acquisition for Educators 3 cr.
This course covers the development of language from birth through young
adulthood. The course focuses on providing future educators with foun-
dational knowledge of language development, delays, differences and
disorders. Course content prepares educators to analyze the linguistic
demands of academic course content and effective bridge gaps between
students' linguistic skills and the demands of the curriculum

C D 370. Anatomy and Physiology of Speech Mechanisms 3 cr.
Structure and function of systems underlying human speech sound pro-
duction and processing including nervous, respiratory phonatory, and
articulatory components. Prerequisites: C or better in C D 221 and C D 360,
or consent of instructor. Same as C D 502. Restricted to majors.

C D 374. American Sign Language I 3 cr.
Introduction to the basics of ASL including questions, commands, sentence
types, time, subjects and objects, classifiers, locative case, pluraliza-
tion, and temporal and distributional aspects.

C D 375. American Sign Language II 3 cr.
Continuation of C D 374, ASL I. Emphasis on ASL grammar, spatial refer-
cing, detailed descriptions, and deaf culture. Features dialogues, short
stories, narratives. Prerequisite: C D 374 or consent of instructor.

C D 376. American Sign Language III 3 cr.
Continuation of C D 375, ASL II. Focus on more complex grammatical
features. Students will comprehend and generate medium length stories,
narratives, and discussions including culturally significant topics. Prerequi-
site: C D 375. Same as C D 574 with differentiated assignments for graduate
students.

C D 380. Introduction to Speech Science 3 cr.
Basic concepts and theories in acoustics, speech production and speech
perception. Includes laboratory experience with instrumental measure-
ment and analysis of speech systems. Prerequisites: C or better in C D 321,
C D 370, and C D 390, or consent of instructor. Same as C D 503. Restricted
to majors.

C D 390. Phonetics 3 cr.
The science of phonetics, including work with the International Phonetic
Alphabet. Prerequisites: C or better in C D 221 and C D 360, or consent of
instructor. Restricted to majors. Same as C D 501.

C D 393. Professional Reasoning and Scientific Thinking 3 cr.
Overview of constructive thinking, problem solving, and decision making
theories and strategies associated with professional reasoning and scienti-
fic thinking that are to be used academically and clinically in the transition
from student to scholar to professional. Taught with C D 593.

C D 452. Speech Disorders 3 cr.
Bases, symptoms, etiologies, and clinical management of issues related
to disorders of articulation, phonology, voice and resonance, and fluency.
Prerequisites: C or better in C D 380/C D 503, C D 453, and C D 462, or con-
sent of instructor. Restricted to majors.

C D 453. Language Disorders 3 cr.
Bases, symptoms, etiologies, and treatment of language disorders.
Includes review of normal language acquisition. Prerequisites: C or better
in C D 321, C D 370/C D 502, and C D 390/C D 501, or consent of instructor.
Restricted to majors.

C D 456. Neural Bases of Communication Disorders 3 cr.
Study of the neuroanatomy and neurophysiology of communication and
communication disorders. Includes review of the central nervous system
and peripheral nervous system relationship to speech motor control, lan-
guage, and hearing. Prerequisites: C or better in C D 380/C D 503, C D 453,
and C D 462, or consent of instructor.

C D 462. Clinical Procedures 3 cr.
Guidelines and procedures associated with the clinical and supervisory
processes. Provide opportunities to complete the supervised clinical
observation requirement for participation in clinical practicum. Requires
attendance at the weekly clinical staff meeting. Prerequisites: C or better
in C D 221, C D 370/C D 502, C D 390/C D 501, passing the oral and written
competency exam, and minimum 3.0 GPA, or consent of instructor. Restricted
to majors.

C D 463. Audiology 3 cr.
Anatomy and physiology of the auditory system, bases of auditory disor-
ders, and basic audiometric procedures. Prerequisite: C or better in CD
380/503, CD 453, CD 462 and a minimum of 3.0 GPA or consent of instructor.

C D 464. Aural Rehabilitation (S) 3 cr.
Anatomy and physiology of the auditory system, review of auditory disor-
ders. Review of the bases and psychosocial aspects of hearing loss. Clin-
ical management of hearing loss consistent with ASHA's scope of practice
for SLP. Prerequisites: C or better in C D 456, and C D 481, or consent of
instructor.

C D 476. American Sign Language III 3 cr.
Continuation of C D 375, ASL II. Focus on more complex grammatical
features. Students will comprehend and generate medium length stories, nar-
ratives, and discussions including culturally significant topics. Prerequisite:
C D 375.
C E 109. Computer Drafting Fundamentals 3 cr. (2+2P)  
Same as DRFT 109, E T 109, SUR 109.

C E 141. Mathematics and Hydraulic Engineering 3 cr.  
A combination of physical, mathematical, and computer simulation models will be developed to explore topics in hydraulic engineering that are central to environmental engineering applications. Same as Math 151. Prerequisite: MATH 121G or consent of instructor.

C E 151. Introduction to Civil Engineering 3 cr.  
Problem solving and use of computer software for civil and geological engineering applications. Corequisite: MATH 119G. Same as C E 151.

C E 160. Geology for Engineers 4 cr. (3+3P)  
Basic concepts of geology, earth materials, and earth processes as they relate to engineering practice.

C E 198. Special Topics 1-6 cr.  
Individual and/or group study of selected topics. To be identified by subtitle. Prerequisite: prior arrangement with faculty. May be repeated for a maximum of 12 credits.

C E - CIVIL ENGINEERING

C E 255. Environmental Science Laboratory 1 cr. (1P)  
Laboratory experiments associated with the material presented in C E 256. May be repeated for a maximum of 6 credits. Prerequisite: consent of instructor.

C E 256. Environmental Science 3 cr.  
Introduction to basic fluid mechanics. Prerequisite: MATH 191G. Restricted to majors.

C E 256L. Environmental Science Laboratory 1 cr. (1P)  
Laboratory experiments associated with the material presented in C E 256. Corequisite: C E 256. Same as E S 256.

C E 266. Environmental Science 3 cr.  
Principles in environmental engineering and science: physical chemical systems and biological processes as applied to pollution control. Prerequisite: C E 151, CHEM 111G, and MATH 119G. Same as E S 256.

C E 301. Mechanics of Materials 3 cr.  
Stress, strain, and elasticity of materials. Prerequisite: C E 233.

C E 311. Civil Engineering Materials 3 cr. (2+2P)  
Introduction to the structure, physical properties, testing and mechanical behavior of civil engineering materials and components made from these materials. Prerequisite: C E 301.

C E 315. Determinate Structural Analysis 3 cr. (2+3P)  
Classical analysis of determinate structures; introduction to modern methods of structural analysis using computer programs. Prerequisite: C E 233. Corequisite: C E 301.

C E 330. Environmental Management Seminar I 1 cr.  
Survey of practical and new developments in environmental management field, hazardous and radioactive, waste management, and related health issues, provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: CH E 430, E E 430, E S 430, E T 430, E I 430, M E 430 and WERC 430.

C E 355. Technology and the Global Environment 3 cr.  
A scientific basis for understanding changes in the global environment that result through the complex interactions of natural phenomena and the impacts of the activities of man. Prerequisites: junior or senior standing, and the general education requirements for math and natural sciences.

Introduction to water treatment and water pollution and the analysis and design of selected treatment processes. Prerequisites: C E 231 and C E 256.

C E 357. Soil Mechanics 3 cr. (2+3P)  
Same as GE EN 357.

C E 365. Intermediate Structural Analysis 3 cr.  

C E 382. Hydraulic Systems Design 3 cr.  
Engineering design of hydraulic systems, including pipe networks, open channels, regulating structures, and pumping systems. Prerequisite: C E 331.

C E 398. Special Topics 1-3 cr.  
May be repeated for a maximum of 6 credits. Prerequisite: consent of department head.

C E 430. Environmental Management Seminar II 1 cr.  
Survey of practical and new developments in environmental management field, hazardous and radioactive, waste management, and related health issues, provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: CH E 430, E E 430, E S 430, E T 430, E I 430, M E 430 and WERC 430.

C E 443. Wood and Masonry Design 3 cr.  
Theory and design of wood members, masonry walls, and their performances in structural systems. Prerequisites: C E 311 and C E 315.

C E 444. Elements of Steel Design 3 cr.  
Analysis and design of tension members, beams, columns, and bolted and welded connections. Prerequisites: C E 301 and C E 315. Corequisites: C E 311 and C E 365.

C E 445. Reinforced Concrete Design 3 cr.  
Design and mechanics of structural reinforced concrete members. Prerequisite: C E 365. Corequisite: C E 311.

C E 450. Engineering Economy and Law 3 cr.  
Discounted cash flows, economics of engineering projects, contracts and specifications. Prerequisite: senior standing.

C E 450 H. Engineering Economics Honors 3 cr.  
Discounted cash flows, economics of engineering projects, contracts, and specifications. Prerequisite: senior standing and the University Honors Program.

C E 454. Wood Design 3 cr.  
Theory and design of wood structural members and systems subjected to gravity and lateral loads. Taught every other year, alternates with C E 455, Masonry Design. Prerequisites: C E 301 and C E 315. Corequisites: C E 311 and C E 365.

C E 455. Masonry Design 3 cr.  
Theory and design of masonry structural members and systems subjected to gravity and lateral loads. Taught every other year, alternates with C E 454, Wood Design. Prerequisites: C E 301 and C E 315. Corequisites: C E 311 and C E 365.

C E 457. Foundation Design 3 cr. (2+3P)  
Application of principles of classical soil mechanics to the design and analysis of foundation systems and retaining structures. Same as GE EN 457. Prerequisite: C E 357.

C E 468. Mechanics of Structural Systems 3 cr. (2+3P)  

C E 469. Structural Systems 3 cr. (2+3P)  

C E 471. Highway Engineering 3 cr. (2+3P)  
Highway systems design and management. Prerequisite: C E 357, STAT 371, or consent of instructor.

C E 477. Construction Engineering 3 cr.  
Construction planning, equipment, and methods. Prerequisites: C E 357 and C E 450.
C E 479. Pavement Analysis and Design 3 cr. Taught with C E 577. Prerequisite(s): C E 357. Restricted to: Main campus only.

C E 482. Hydraulic Structures 3 cr. Engineering design of water-regulating structures. Prerequisites: C E 301 and C E 382.

C E 483. Surface Water Hydrology 3 cr. Hydrologic cycle and relationships between rainfall and surface water runoff. Prerequisite: C E 331 or consent of instructor.

C E 485. Design of Earth Dams 3 cr. Same as G EN 485.

C E 497. Senior Seminar 2 cr. Selected topics on the civil engineering profession and orientation for professional practice. Preparation for the FE exam. Corequisite: application for degree.

C E 498. Special Topics 1-3 cr. Prerequisite: consent of department head. May be repeated for a maximum of 9 credits.

C EP- COUNSELING & EDUCATIONAL PSYCHOLOGY

C EP 110G. Human Growth and Behavior 3 cr. Introduction to the principles of human growth and development throughout the life span.

C EP 201. Educational Psychology 3 cr. Psychological foundations as they apply to the learner in the classroom setting.


C EP 220. Personal Development in the Schools 3 cr. Course focuses on increasing self-awareness and coping with changes during one’s life span.


C EP 299. Academic Excellence Classes 1-6 cr. Academic curriculum of excellence that includes the development of collaborative learning and student success environment, learning diverse learning styles and multiple intelligences, and developing multi-contextual academic communication styles.


C EP 310. Student Leadership 3 cr. Organizational theory, leadership styles, decision-making techniques, and communication skills with an opportunity to apply learning during class discussions.

C EP 320. Sex Roles in Education 3 cr. Physiological, psychological, and political aspects of sex role socialization and the effects of these factors on personal development.


C EP 465. Psychology, Multiculturalism and Counseling 3 cr. Understanding social identities such as race, ethnicity, sexual orientation, age, social class and spirituality as it relates to psychosocial development, academic achievement and counseling.

C EP 469. Independent Study 1-6 cr. Individual study directed by consenting faculty.

C J- CRIMINAL JUSTICE

C J 101G. Introduction to Criminal Justice 3 cr. Examination of crime and justice within the broader social and cultural context of U.S. society from interdisciplinary social science perspectives. Includes critical analysis of criminal justice processes and the ethical, legal, and political factors affecting the exercise of discretion by criminal justice professionals.

C J 199. Special Topics in Criminal Justice 1-3 cr. Specific subjects to be announced in the Schedule of Classes. May be repeated under different topics for a maximum of 6 credits.

C J 201. Independent Study 3 cr. Directed, individual studies and projects. Consent of instructor required.


C J 206. Criminal Law II 3 cr. Legal problems associated with the investigation of crime. Commencement of criminal proceedings, prosecution and defense of charges, sentencing and appeal. Prerequisite: C J 205. Community Colleges only. (Note: students completing C J 206 may not take C J 306.)

C J 210. The American Law Enforcement System 3 cr. Historical and philosophical foundations of law and order. An in-depth examination of the various local, state, and federal law enforcement agencies.

C J 221. Fundamentals of Criminal Investigation 3 cr. Investigation procedures from crime scene searches, collection of evidence, and case preparation. Community Colleges only. (Note: students completing C J 221 may not take C J 321.)


C J 293. Field Experience in Criminal Justice 3 or 3-6 cr. Field experience in a public criminal justice agency or equivalent private sector organization. Supervised internship experience, conferences, and observations. Prerequisites: C J 101G, prior arrangement and consent of instructor and a GPA of 2.0 or better in major. Restricted to majors. Community Colleges only.

C J 300. Introduction to Criminal Justice Research 3 cr. Overview and evaluation of criminal justice research. Selection of research topics, methods of data selection and collection, analysis techniques, and presentation of findings. Prerequisite: restricted to majors or consent of instructor.

C J 301. Advanced Research Methods 3 cr. Study of selected quantitative and qualitative skills and their application to criminal justice research. Prerequisite: Restricted to majors or consent of instructor.

C J 306. Criminal Procedural Law 3 cr. Legal analyses of the rights of criminal defendants; legal duties and responsibilities of criminal justice personnel in the processing of criminal defendants. Prerequisite: Restricted to majors or consent of instructor.

C J 307. Law of Evidence 3 cr. Evidentiary rules and concepts and their application in a criminal trial. Prerequisite: Restricted to majors or consent of instructor.

C J 321. Criminal Investigation and Intelligence 3 cr. Principles of criminal investigation and intelligence production; processing cases from complaint through crime scene search, identification and collection of evidence, interviewing and interrogation, and case preparation for courts. Prerequisite: restricted to majors or consent of instructor.

C J 322. Organized Crime 3 cr. Study of national and international criminal organizations and organized crime core groups. Examination of criminal and legitimate enterprises of organized criminal syndicates. Study of tactics to combat organized crime. Current policy implications. Prerequisite: restricted to majors or consent of instructor.

C J 331. American Correctional Institutions 3 cr. Structure, organization, and operations of United States jails and prisons. Overview of correctional standards and classification systems, emphasizing current theory and practice. Prerequisite: restricted to majors or consent of instructor.

C J 332. Correctional Law 3 cr. Federal and state laws and rules of post-conviction procedures; rights of the convicted related to sentencing, appeals, clemency, and restoration of rights. Prerequisite: restricted to majors or consent of instructor.
C J 333. Juvenile Corrections 3 cr.
Development and implementation of juvenile facilities and community programs. Effectiveness of current corrections practices. Restricted to majors.

C J 345. Victimization 3 cr.
Study of risk factors in crime victimization, the impact of crimes upon victims, and the role of the victim in the criminal justice system. Prerequisite: restricted to majors or consent of instructor.

C J 346. Psychology and the Justice System 3 cr.
Analysis of psychological underpinnings of criminal behavior and the implications of these psychological principles for criminal justice policy. Restricted to majors.

C J 347. Sex Crimes 3 cr.
Dynamics of sex crimes for victims and offenders, plus consideration of the legal and correction systems’ response to sex crimes. Restricted to majors.

C J 360. The Juvenile Justice System 3 cr.
History, development, and philosophy behind a separate juvenile justice system. Role of the juvenile court, evaluation of juvenile law and procedure, and the processing of juvenile offenders. Prerequisite: restricted to majors or consent of instructor.

C J 380. Introduction to Terrorism 3 cr.
Overview of the phenomenon of terrorism, psychological and sociological theories of terrorism, and various contemporary governmental policies.

C J 391. Special Readings in Criminal Justice 1-3 cr.
Individually chosen subject areas not readily available in other courses. Prerequisites: at least a 2.5 GPA and consent of instructor. May be repeated for a maximum of 6 credits under different subtitles. Restricted to majors.

C J 393. Internship in Criminal Justice 1-12 cr.
Field experience in a local, state, or federal criminal justice or private security agency. Includes orientation, observation, conferences, and work experience. Credits limited to six if student has taken C J 293. Prerequisites: consent of instructor and GPA of 2.5 or better. May be repeated for a maximum of 12 credits. Restricted to majors. Graded S/U.

C J 399. New Mexico Law 3 cr.
Same as GOVT 398, JOUR 398, SOC 399, and HIST 399.

C J 400. Practicum in Criminal Justice Research 1-3 cr.
Execution of a research project in criminal justice; nature and planning of a project, sampling design, data collection and analysis, and research reporting. Prerequisite: 2.5 GPA and consent of instructor. May be repeated for a maximum of 6 credits. Restricted to majors.

C J 405. Juvenile Courts and Law 3 cr.
History, development, and current status of juvenile courts. Legal status of juveniles in court and constitutional protections afforded them. Restricted to majors.

C J 410. Criminal Justice Administrative Systems 3 cr.
Administrative structures in criminal justice agencies and institutions; relationship of administrative structures to practical police, courts, and corrections problems. Prerequisite: restricted to majors or consent of instructor.

C J 411. Introduction to the Nature of Crime 3 cr.
Defining and measuring crime, crime causation, and the criminal behavior system, and their linkage to criminal justice policies, procedures, and practices. Prerequisite: C J 101G. Restricted to majors or consent of instructor.

C J 412. Introduction to Security Technology and Loss Prevention 3 cr.
Private and public responses to security problems, including employee theft, perimeter security, and domestic or foreign terrorism; reviews related law and management practices.

C J 413. Nature of Youth Crime 3 cr.
Examines images of youth crime and violence; official sources of information on prevalence and nature of youth crime. Explanations of youth crime at individual, group, and social structural levels. Restricted to majors.

C J 414. Race, Crime and Justice 3 cr.
Historical and contemporary analysis of the relationship between race and crime in the United States with emphasis upon human equality and fairness. Overview of racial and ethnic social categorizations and how they impact law and order.

C J 416. Global Perspectives on Youth and Drug Use 3 cr.
Overview of global drug use among young people, comparative legal structures, formal and informal responses. Restricted to C J, ANTH, GOVT, SOC, WS, SWK majors.

C J 417. Drugs In Our World 3 cr.
Comparative analysis of patterns and theories of drug use, formal government mitigation strategies.

C J 424. Forensic Law 3 cr.
Overview of the rules and issues related to the use of scientific information in the legal process. Prerequisite: C J major or consent of instructor. Restricted to majors.

C J 425. Issues in Ethics, Law, and Criminal Justice 3 cr.
Examination of the key ethical and decision-making dilemmas facing professionals working in the field of law and criminal justice. Prerequisite: restricted to majors or consent of instructor.

C J 432. Issues in Criminal Justice 3 cr.
Seminar on problems and conflicts encountered in major criminal justice issues. Topics announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for unlimited credits under different subtitles. Restricted to majors.

C J 434. Probation, Parole, and Community Corrections 3 cr.
Structure, organization, and operation of probation, parole, and other community-based correctional programs in the U.S. Overview of historical and recent trends in the supervision of offenders in the community and in the development of alternatives to incarceration. Analysis of issues related to community correctional policies and practices. Restricted to majors.

C J 435. Political Penology 3 cr.
Comparative analysis of incarceration and sanctions as punishment for crimes of conscience, religious intolerance, and dissidence.

C J 440V. Comparative Criminal Justice Systems 3 cr.
Cross-national study of selected Western and non-Western legal systems. Comparison of structures and functions of police, court systems, and corrections in different systems.

C J 448. Senior Seminar 3 cr.
Problems and conflicts encountered in major attempts to control crime. Prerequisite: all required C J courses must be completed. Restricted to majors.

Critical analysis of violence and systems of justice along border regions. Examines causes and correlates of violence experienced by those living in border regions and the social responses to that violence.

C J 452. Upper World Crime 3 cr.
Corporate crime, white collar crime and political abuse and corruption; executive and corporate criminal behavior, and violations of the public trust by elected and appointed officials. Prerequisite: restricted to majors or consent of instructor.

C J 452V. Women and Justice 3 cr.
Critical analysis of the impact of the criminal justice system, race and class upon the lives of women. Restricted to majors.

C J 454. Human Trafficking 3 cr.
Study of global human trafficking, its causes and costs, and mitigation strategies. Restricted to C J GOVT SOC CWSS WK majors.

C J 455. Feminist Research Methods 3 cr.
Feminist research practices and methodologies utilized in various disciplines. Definitions of research, what constitutes valid inquiry, how research can be feminist, and what it means to do interdisciplinary work.

C J 480. Criminal Justice Planning and Crime Analysis 3 cr.
Basic working tools in gathering data for the purpose of developing criminal justice plans and programs. Planning criteria, program implementation strategies, and evaluation requirements. Prerequisite: restricted to majors or consent of instructor.

C J 481. Hate Crimes and Domestic Terrorism 3 cr.
Overview of religious and political extremism in the U.S., with a particular focus on the roots and practices of extremist groups and their doctrines. Prerequisite: C J 380 or consent of instructor.

C J 482. Transnational Terrorism 3 cr.
Overview of international terrorism and its sociological, political, historical, and religious causes, with a particular focus on current terrorism.

C S 110. Computer Literacy 3 cr.
Evolution and application of computers; economic and social implications; introduction to programming on microcomputers.

C S 167. C Programming 3 cr. (2+2P)
Programming in the C language. Prerequisite: MATH 121G.
C S 470. Artificial Intelligence I 3 cr.
Fundamental principles and techniques in artificial intelligence systems.
Knowledge representation formalisms; heuristic problem solving tech-
niques; automated logical deduction; robot planning methods; algorithmic
methods, foundations of logic programming; programming in Prolog; constraint logic programming; applications of logic
and constraint programming. Not for C S graduate students. Prerequisites: at least C in C S 272 and C S 278.

C S 471. Programming Language Structure I 3 cr.
Syntax, semantics, implementation, and application of programming lan-
guages; abstract data types; concurrency. Not for C S graduates. Prerequi-
ts: at least a C in C S 272 and C S 370.

C S 472. Architectural Concepts I 3 cr.
Comparison of architectures to illustrate concepts of computer organiza-
tion; relationships between architectural and software features. Not for C S graduate students. Prerequisites: at least a C in C S 273 and C S 370.

C S 474. Operating Systems I 3 cr.
Operating system principles and structures, and interactions with architec-
tures. Not for C S graduate students. Prerequisites: at least a C in C S 273, C S 371, and C S 372.

C S 475. Artificial Intelligence II 3 cr.
Fundamental principles and techniques in artificial intelligence systems.
Knowledge representation formalisms; heuristic problem solving tech-
niques; automated logical deduction; robot planning methods; algorithmic
methods, foundations of logic programming; programming in Prolog; constraint logic programming; applications of logic
and constraint programming. Not for C S graduate students. Prerequisites: at least a C in C S 272 and C S 273, MATH 280, MATH 291.

C S 477. C Programming 3 cr.
Programming in the C language. More advanced than C S 167. Recom-
mented for nonmajors only. Prerequisite: graduate standing.

C S 478. Senior Project 4 cr.
Capstone course in which C S majors work in teams and apply computer
science skills to complete a large project. Prerequisites: senior standing
and consent of instructor.

C S 479. C Programming 3 cr.
Programming in the C language. More advanced than C S 177. Recom-
manded for nonmajors only. Prerequisite: graduate standing.

C S 482. Database Management Systems I 3 cr.
Database design and implementation; models of database management
systems; privacy, security, protection, recovery. Not for C S graduate stu-
dents. Prerequisites: at least a C in C S 272 and either C S 276 or MATH 279
or MATH 330.

C S 501. Functional Programming 3 cr.
Applicative programming techniques; higher order functions, infinite data
structures, lambda calculus, universal functions. Survey of functional
languages including Miranda and ML. Not for C S graduate students. Prerequi-
ts: At least a C in C S 272 and C S 278.

C S 545. Linux System Administration 3 cr.
Basic system administration for Linux environments. Topics include user
managements, file systems, security, backups, system monitoring, kernel
configuration and other relevant aspects of system administration. Not for
Computer Science graduate students.

C S 546. Logic and Constraint Logic Programming 3 cr.
Declarative programming techniques; foundations of logic programming;
programming in Prolog; constraint logic programming; applications of logic
and constraint programming. Not for C S graduate students. Prerequisites:
at least C in C S 272 and C S 278.

C S 547. Artificial Intelligence II 3 cr.
Fundamental principles and techniques in artificial intelligence systems.
Knowledge representation formalisms; heuristic problem solving tech-
niques; automated logical deduction; robot planning methods; algorithmic
methods, foundations of logic programming; programming in Prolog; constraint logic programming; applications of logic
and constraint programming. Not for C S graduate students. Prerequisites: at least a C in C S 272 and C S 278.

C S 548. Senior Project 4 cr.
Capstone course in which C S majors apply computer science skills to complete a research project, culminating in a written thesis report. Prereq-
us: consent of thesis adviser.

C S 549. Senior Thesis 4 cr.
Capstone course in which C S majors apply computer science skills to complete a research project, culminating in a written thesis report. Prereq-
us: consent of thesis adviser.

C S 550. Advanced Topics in Computer Science 3-6 cr.
Advanced topics in computer science. Not for C S graduate students. Prerequi-
ts: consent of instructor.

C S 560. Advanced Topics in Computer Science 3-6 cr.
Advanced topics in computer science. Not for C S graduate students. Prerequi-
ts: consent of instructor.

C S 561. Logic and Constraint Logic Programming 3 cr.
Declarative programming techniques; foundations of logic programming;
programming in Prolog; constraint logic programming; applications of logic
and constraint programming. Not for C S graduate students. Prerequisites:
at least C in C S 272 and C S 278.

C S 562. Database Management Systems I 3 cr.
Database design and implementation; models of database management
systems; privacy, security, protection, recovery. Not for C S graduate stu-
dents. Prerequisites: at least a C in C S 272 and either C S 276 or MATH 279
or MATH 330.
CCDL 101 N. Basic Skills in English as a Second Language I 4 cr. (3+2P)
CCDL- DEVELOPMENTAL ESL
CCDL 103 N. Basic Skills in English as a Second Language II 4 cr. (3+2P)
Continuation of CCDL 101N for ESL students. Course intended for U.S. citizens and residents who are nonnative speakers of English. Prerequisite: English language screening or consent of instructor.

CCDL 107 N. Intermediate Skills in English as a Second Language I 4 cr. (3+2P)
Continuation of CCDL 106N. Course intended for U.S. citizens and residents who are nonnative speakers of English. Prerequisite: English language screening or consent of instructor.

CCDS 109 N. Study Skills for Reading 1-3 cr.
Individualized reading skills strategies necessary for success in college classroom. May be repeated for a maximum of 3 credits. Graded traditional or S/U.
CCDS 111 N. Study Skills for Math 1-3 cr.
Individualized study skill strategies necessary for success in the math classroom. May be repeated for a maximum of 3 credits.

CCDS 113 N. Study Skills for English 1-3 cr.
Individualized study skill strategies necessary for success in the composition classroom. May be repeated for a maximum of 3 credits.

CEL- ONLINE LEARNING AND TEACHING

CEL 100. Degree Foundations 2 cr.
Topics related to professional development, time management, career placement, and academic skills preparation.

CEL 220. Basic Community Emergency Response 1 cr.
Provides instruction on disaster preparedness for hazards that may impact the community. Training in basic disaster response skills such as fire safety, disaster medical operations, light search and rescue, disaster psychology, and terrorism response. Graded: S/U.

CEL 301. Math Review for NMTA Basic Skills 1-3 cr.
Supplementary review work for students seeking to pass the math basic skills section of the NMTA Basic Skills exam. Topics include ratio/proportions, percents, geometry review, number sense, problem solving algebra review, and basic statistics. Prerequisites: MATH 112G or MATH 120 or consent of instructor approved math preparation and consent of instructor.

CEL 320. Community Emergency Response 3 cr.
Provides instruction on disaster preparedness for hazards that may impact a community. Training in basic disaster response skills such as fire safety, light search and rescue, team organization, and disaster medical operations. Training provided in both classroom and remote location settings.

CEL 401. Special Topics 1-3 cr.
Supervised academic work in support of NMTA preparation and other CEL student study plans. Consent of instructor or CEL advisor required.

CEL 420. Directed Readings 1-6 cr.
Individual readings or research for either majors or non-majors Consent of instructor required. Graded: S/U. Prerequisite(s): Junior or above standing.

CEL 495. Directed Studies 1-6 cr.
Individual study directed by consenting faculty. Consent of instructor required. Restricted to: Main campus only.

CEL 498. Degree Capstone 3 cr.
A final academic project reflecting BAS/BIS career; study plans and reflections on degree completion experience.

CEL 499. Internship 1-6 cr.
Placement experience for BAS/BIS students to participate in career oriented academic and professional level opportunities. Consent of instructor required. Restricted to: Main campus only.

CH E - CHEMICAL ENGINEERING

CH E 100. Basics of Chemical Engineering 1 cr.
Development of chemical engineering and introduction to chemical engineering education and practice.

CH E 101. Stoichiometry and Mass Balances 3 cr.
Chemical engineering information, communication, basic problem-solving skills and engineering ethics; flow sheeting; data analysis; unit conversions; elementary stoichiometry; material balances; and design strategy with emphasis on innovation. Chemical engineering majors must make C or better in this course. Prerequisites: MATH 180 and MATH 121G. Restricted to majors.

CH E 111. Introduction to Computer Calculations in Chemical Engineering 3 cr.
Introduction to the use of computer software to solve engineering problems. Chemical engineering majors must earn C or better. Prerequisite: MATH 121G.

CH E 131. Introduction to Environmental Management 3 cr.
Role of science and the various branches of engineering in protecting our environment. Includes guest lectures.

CH E 191. Orientation to the Chemical Industry 1 cr. (3P)
On-site inspection of selected chemical manufacturing plants representing a cross section of process types. Requires written report describing processes studied; one week of travel with the class to a major chemical manufacturing area with cost of travel, lodging, and meals paid for by student; and compliance with security/safety rules for each plant visited. Prerequisite: consent of instructor.

CH E 201. Material and Energy Balances 4 cr.
Chemical Engineering basic problem-solving skills; unit conversions; elementary stoichiometry; material balances; energy balances; combined energy and material balances including those with chemical reaction, purge and recycle; thermochemistry; application to unit operations. Sources of data. Introduction to the first law of thermodynamics and its applications. Chemical engineering majors must earn C or better in this course. Restricted to CH E majors. Same as CH E 201. Prerequisites: CHEM 115 or CHEM 111G, CH E 111 and MATH 192G.

CH E 201 H. Material and Energy Balances - Honors 4 cr.
Same as CH E 201. Additional work to be arranged. Restricted to CH E majors. Prerequisites: CHEM 115 or CHEM 111G, CH E 111 and MATH 192G.

CH E 298. Special Problems 1-3 cr.
Directed individual study. Written report covering work required. Prerequisite: consent of instructor and department head. May be repeated for a maximum of 3 credits under different subtitles. Restricted to majors.

CH E 301. Chemical Engineering Thermodynamics I 3 cr.
Applications of the first and second law to chemical process systems, especially phase and chemical equilibria and the behavior of real fluids. Development of fundamental thermodynamic property relations and complete energy and entropy balances. Chemical engineering majors must earn C or better in this course. Prerequisite: CH E 201 and MATH 291G. Restricted to majors.

CH E 302. Chemical Engineering Thermodynamics II 3 cr.
Continuation of CH E 301. Chemical engineering majors must earn C or better in this course. Prerequisite: CH E 301 and MATH 392. Restricted to majors.

CH E 305. Transport Operations I: Fluid Flow 3 cr.

Theory of heat and mass transport. Unified treatment via equations of change. Analyses between heat and mass transfer. Shell balance solution to 1-D problems in heat and mass transfer. Analysis of chemical engineering unit operations involving heat transfer. Design principles for mass transfer equipment. Chemical engineering majors must earn C or better in this course. Prerequisites: CH E 305 and MATH 392. Restricted to majors.

Theory of mass transport. Mass transfer coefficients. Analysis of chemical engineering unit operations involving mass transfer and separations. Equilibrium stage concept. General design and operation of mass-transfer equipment and separation sequences. Chemical engineering majors must earn C or better in this course. Prerequisite: CH E 306.

CH E 311. Engineering Data Analysis 3 cr.
Methodology and techniques associated with analyzing engineering data. Extensive spreadsheet use to analyze data and develop statistically significant conclusions based on the data. Data sets range from single variable experiments to multifactor regression analysis. Prerequisite: MATH 192G.

CH E 315 L. Process Instrumentation Laboratory 2 cr. (8P)
Experiments with written reports in measurement of mass, pressure, temperature, and volume; enthalpy of reactions; mass and heat balances; principles of process instrumentation and control equipment as they are applied to laboratory operation. Study of measurement error, statistical estimation and analysis. Chemical engineering majors must earn C or better in this course. Prerequisites: CH E 301 and CH E 211. Restricted to majors.

CH E 321. Unit Operations Technology 5 cr.
Study of chemical engineering unit operations involving fluid flow, heat transfer, mass transfer, staged operations, and chemical reactors from the operating technician's point of view. Design and operation of equipment. Laboratory includes hands-on experiments on maintenance, operation and control of pilot scale equipment with written reports. Chemical engineering majors will not receive credit for this course. Prerequisite: CH E 201. Restricted to nonchemical engineering majors.

CH E 330. Environmental Management Seminar I 1 cr.
CH E 361. Engineering Materials 3 cr.
Bonding and crystal structure of simple materials. Electrical and mechanical properties of materials. Phase diagrams and heat treatment. Corrosion and environmental effects. Application of concepts to metal alloys, ceramics, polymers, and composites. Selection of materials for engineering design. Prerequisite: CHEM 111G or CHEM 114, or equivalent. Same as CH E 361H.

CH E 361 H. Engineering Materials Honors 3 cr.
Same as CH E 361. Additional work to be arranged. Prerequisite: CHEM 111G or CHEM 114, or equivalent.

CH E 391. Industrial Employment 1-2 cr.
Employment in chemical, petroleum, food, biotechnology, materials, environmental or pharmaceutical industry with opportunity for professional experience and training in chemical engineering. Requires written report covering work period approved by employer. Prerequisites: consent of instructor and department head. Course subtitled. May be repeated for a maximum of 6 credits. Arrangements must be made prior to employment. Restricted to majors.

CH E 395V. Brewing Science and Society 3 cr.
An overview of the science of brewing and the interrelationships between society, technology, business, and the evolution of the current beer market. Topics covered are history of brewing and the interrelationships between societal attitudes, technology, and cultural preferences; beer styles and evaluation techniques; production and characteristics of ingredients used in brewing; brewing unit operations; biochemistry of malting, mashing, and fermentation; and environmental and societal health issues related to beer and alcohol. Students must be at least 21 years of age by the first day of instruction of the semester to enroll in this course.

CH E 399. Special Projects 1-2 cr.
Directed individual projects. Written and oral reports covering work required. Prerequisites: consent of instructor and department head. Course subtitled. May be repeated for a maximum of 4 credits. Restricted to majors.

CH E 407 L. Thermodynamics and Transport Laboratory 2 cr. (6P)
Experiments in thermodynamics and transport phenomena. Includes the determination of thermodynamic properties, transport properties, and heat and mass transfer coefficients. Experimental design; treatment of experimental data; written and oral reports. Chemical engineering majors must earn a C or better in this course. Prerequisite: CH E 306 and CH E 315L.

CH E 411. Introduction to Engineering Analysis 3 cr.
Development of phenomenological and dynamic process models and their numerical and analytical solution. Includes linear models and their vector-matrix forms; vector-tensor analysis, Green's and Stokes theorems applied to transport equations; dynamic models and their Laplace transforms. Prerequisites: MATH 392. Same as CH E 511.

CH E 412. Process Dynamics and Control 3 cr.

CH E 422 L. Unit Operations and Process Control Laboratory 2 cr. (6P)
Experiments with chemical engineering unit operations including the use of computer data acquisition and closed-loop process control. Covers control system instrumentation, development of empirical models from process data, and PID controller design and tuning. Written and oral reports. Prerequisites: CH E 307 and CH E 407L.

Introduction to the design of commercially important novel separation techniques. Mathematical treatment of linear and nonlinear sorption theories, crystallization from solution and from the melt (freezing and zone melting), and membrane and electromembrane processes. Prerequisites: CH E 302, CH E 306, and CHEM 433. Same as CH E 525.

CH E 426. Solids Processing and Particle Technology 3 cr.
Characterization, behavior, production, separation, and modeling of particulate systems. Topics include: particle size distributions and their measurement, population balance models, fluidization, dust and mist collection, and flow sheet modeling of processes involving solids. Prerequisites: CH E 307 and consent of instructor. Same as CH E 526.

CH E 430. Environmental Management Seminar II 1 cr.
Survey of practical and new developments in environmental management field, hazardous and radioactive, waste management, and related health issues, provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: CE E 430, EE E 430, E S 430, E T 430, I E 430, M E 430 and WERC 430.

CH E 432. Chemical Engineering Applications to Environmental Clean-Up 3 cr.
Solution of environmental problems, particularly those involving chemical separations and/or reaction. Application of chemical engineering principles. Flow and dispersion through porous media, water flow through particulate solids, chemistry of radioactive waste, in-situ site remediation, ex-situ site remediation, colloid and surface chemistry. Prerequisites: CH E 307 and CH E 441. Same as CH E 532.

CH E 433. Air Pollution Modeling 3 cr.
Introduction to air pollution modeling. Major features of the atmosphere. Fundamental flow and transport equations. Factors impacting air pollution. Conventional models used for regulatory compliance. Discussion of research problems. Prerequisite: consent of instructor. Same as CH E 533.

CH E 435. Industrial Waste Treatment and Environmentally Benign Manufacturing 3 cr.
Control of gaseous, liquid, and solid wastes. Regulations and management procedures. Waste minimization and resource recovery. Separations and reaction engineering approaches to design of zero-discharge plants and environmentally benign chemical manufacturing. Design and selection of industrial waste treatment facilities. Prerequisite: consent of instructor.

CH E 436. Environmental Process Design I 3 cr. (SP)
Environmental clean-up and/or waste treatment process design. Participation in team solution to the WERC environmental contest problem, or equivalent, according to rules of contest. Design, construction, and operating demonstration of a bench or pilot scale facility to clean up a specified environmental problem. Written and oral reports covering work required. Open to all science, engineering, and business majors. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. Same as CH E 536.

CH E 437. Environmental Process Design II 3 cr. (SP)
Continuation of CH E 436. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. Same as CH E 537.

CH E 438. Environmental, Occupational Safety and Health in Chemical Plants 3 cr.
Plant, personnel, environmental, occupational safety and health concerns in the design and operation of processes. Includes concerns of regulations and public policy. Prerequisite: consent of instructor. Same as CH E 538.

CH E 441. Chemical Kinetics and Reactor Engineering 3 cr.

CH E 443. Industrial Catalysis 3 cr.
Fundamentals of catalytic processes, including chemistry, catalyst preparation, properties and reaction engineering. Addresses heterogeneous catalytic processes employed by industry. Detailed analysis of existing catalysts and catalytic reactions, and process design in chemical engineering. Prerequisite: CH E 441.

CH E 444. Process Control and Dynamics 3 cr.
Process modeling, dynamics, and feedback control. Linear control theory and simulation languages. Prerequisite: MATH 392 and consent of instructor.

CH E 451. Engineering Economy 3 cr.
Discounted cash flows, economics of project, contract and specifications as related to engineering design. Same as I E 451.

CH E 452. Process Design, Analysis, and Simulation 4 cr. (SP)
Computer-aided design and analysis of unit operations equipment, chemical reactors and integrated chemical process plants. Steady-state flow sheet simulation of processes. Design for optimum operability, safety, reliability, and control. Chemical engineering majors must earn a C or better in this course. Prerequisites: CH E 307, CH E 441, and CH E 451. Restricted to majors.

CH E 455. Plant Design 2 cr.
Topics in design and economics. Requires individual solution of the AIChE student contest problem, or equivalent, according to rules of contest. Written report covering work required. Prerequisites: CH E 452.
CH E 455 H. Plant Design Honors 2 cr.  Same as CH E 455. Requires individual design project and special report. Additional work will be arranged. Prerequisites: CH E 452.

CH E 456. Advanced Chemical Process Simulation 3 cr. Advanced techniques in computational simulation of chemical processes using process simulation software. Restricted to CH E majors. Prerequisite: CH E 452L or consent of instructor.

CH E 462. Ceramic and Metallic Composites 3 cr. Mechanical and thermal properties of refractory materials, especially ceramics and metals. Composite applications of these materials. Prerequisite: CH E 361 or consent of instructor. Same as CH E 562.

CH E 463. Corrosion Topics in Material Science 3 cr. For senior and graduate students in engineering: training to identify and analyze corrosive environments. Estimation of the rate of corrosive attack, cost-effective materials, and procedures to resolve the problem. Prerequisite: CH E 361 or consent of instructor.


CH E 466. Fuel Cell and Hydrogen Technology 3 cr. Introduction to fundamentals and applications. Includes the thermodynamics; electrochemical kinetics and cell electrode catalyst; systems and design and reforming; hydrogen production, storage, and safety; applications of fuel cells in stationary power generation, portable power, and automotives. Prerequisites: CHEM 111G and PHYS 215G.

CH E 468. Adsorption 3 cr. Introductory course includes adsorption equilibrium and kinetics theories; materials and characterization; processes and design. Selected applications of adsorption processes in chemical, pharmaceutical and environmental industries. Prerequisites: CH E 301 and CH E 306. Restricted to majors.

CH E 470. Introduction to Nuclear Energy 3 cr. Nuclear Structure and radioactivity, nuclear reactions, radiation effects and shielding, uranium mining and milling, uranium conversion, uranium enrichment, fuel fabrication, reactor operations, interim storage, reprocessing and recycling, waste immobilization, final disposal, alternative fuel cycles and future prospects. Prerequisite: CHEM 111G.


CH E 473. Nuclear Regulations and Compliance Practices 3 cr. Introduction, through the use of case studies, to the best technical compliance practices for regulations governing the siting, licensing, constructing, operating and decommissioning of nuclear fuel cycle facilities. Consent of instructor required. Prerequisite(s): MATH 191G and (CHEM 111G or Chem 115). Crosslisted with: WERC 473.


CH E 475. Nuclear Reactor Theory 3 cr. An overview of the properties of nuclei, nuclear structure, radioactivity, nuclear reactions, fission, resonance reactions, moderation of neutrons, which are followed by mathematical treatment of the neutronics behavior of fission reactors, primarily from a theoretical, one-speed perspective. Criticality, fission product poisoning, reactivity control, reactor stability and introductory concepts in fuel management, slowing down and one-speed diffusion theory. Corequisites: MATH 392. Prerequisites: CHEM 112G, PHYS 215G, MATH 291G.

CH E 476. Biotechnology Processes 3 cr. Design and analysis of bioreactors, instrumentation and control, product recovery operations and bioprocess economics. Prerequisite: CH E 475 or consent of instructor. Same as CH E 576.

CH E 477. Introduction to Bioengineering 3 cr. Introductory course includes both biomedical and biochemical engineering topics; tissue engineering, biomedical systems, artificial organs, biology from an engineering viewpoint, engineering principles of bioprocesses, biochemical engineering, physiologic systems modeling and introduction to applications for recombinant DNA technology. Prerequisites: CHE 201.

CH E 482. Food Process Engineering I 3 cr. Application of chemical engineering principles to the quantitative analysis of food processing systems. Physical, chemical, and engineering properties of foods and food systems. Refrigeration and freezing of foods. Dehydration of foods including air, drum, flash and freeze drying. Applications of filtration to food processing. Prerequisite: CH E 441 or consent of instructor. Same as CH E 582.

CH E 483. Food Process Engineering II 3 cr. Continuation of CH E 482. Prerequisite: CH E 482. Same as CH E 583.

CH E 490. Senior Seminar 1 cr. Orientation to professional practice. Oral presentations by invited speakers, faculty, and students. Prerequisite: senior standing. Restricted to majors.

CH E 491. Special Topics 1-4 cr. Lecture and/or laboratory instruction on special topics in chemical engineering. May be repeated to a maximum of 6 credits under different subtitles listed in the Schedule of Classes. Restricted to majors.

CH E 498. Undergraduate Research 1-3 cr. (6+9P) Provides an opportunity for undergraduate students to work in research or areas of special interest such as design problems and economic studies under the direction of a faculty member. Written report and oral presentation in CH E 490, Senior Seminar, covering work required. Prerequisite: consent of instructor and department head. Approval of written application. Maximum of 3 credits per semester. May be repeated for a maximum of 6 credits.

CHEM - CHEMISTRY

Credit may not be received for any chemistry course which covers the same general subject matter but is at a lower level than the course for which credit has already been earned. (For example: CHEM 110G after CHEM 111G, CHEM 211 after CHEM 313, etc.)

CHEM 100. Basic Chemistry 3 cr. For students whose preparatory science or math training has been deficient. Does not meet the chemistry requirement in any curriculum. Prerequisite: Enhanced ACT composite score of at least 18 or a grade of C or better in CCDM 114N.

CHEM 101. General Supplemental Instruction I 1 cr. Collaborative workshop for students in General Chemistry I. Course does not count toward departmental degree requirements. Corequisite: CHEM 111G. May be repeated for a maximum of 2 credits.

CHEM 102. General Supplemental Instruction II 1 cr. Collaborative workshop for students in General Chemistry II. Course does not count toward departmental degree requirements. Corequisite: CHEM 112G. May be repeated for a maximum of 2 credits.


CHEM 110G. Principles and Applications of Chemistry 4 cr. (3-3P) A survey of the properties and uses of the elements and their compounds. In addition to classical chemistry, attention is paid to the materials from which consumer products are made, to the production of energy, and to environmental considerations. Prerequisite: 3 years of high school math or CCDM 114N.

CHEM 111G. General Chemistry I 4 cr. (3-3P) Descriptive and theoretical chemistry. Prerequisite: (1) grade of C or better in MATH 120 or a Mathematics Placement Exam Score adequate to enroll in mathematics courses beyond MATH 120; and (2) one of the following: B or better in a second semester high school chemistry course, or grade of at least C in CHEM 100, or an enhanced ACT score of at least 22. CHEM 111G/112 are General Education alternative to CHEM 110G.

CHEM 112G. General Chemistry II 4 cr. (3-3P) Descriptive and theoretical chemistry. CHEM 111G/112 are General Education alternative to CHEM 110G.
CHEM 114. General Chemistry for Engineers 4 cr. (3+3P)
An accelerated one-semester course covering the basic principles of chemistry. May not be taken for credit by students who have taken CHEM 111G.

CHEM 115. Principles of Chemistry I 4 cr. (3+3P)
Detailed introduction to analytical, inorganic and physical aspects of chemistry; both descriptive and theoretical explanations. Structured for chemistry and biochemistry majors but appropriate for other physical and life science students. CHEM 115/116 are General Education alternatives to CHEM 110G. Prerequisite: Eligible to take MATH 110 and an ACT composite score of 22 or higher.

CHEM 116. Principles of Chemistry II 4 cr. (3+3P)
Recommended for chemistry majors and other qualified students. CHEM 115/116 are General Education alternatives to CHEM 110G. Prerequisites: grade of C or better in CHEM 115.

CHEM 152. Chemistry and Mathematics of the Molecular World 3 cr.
Introduction to chemical and mathematical concepts relevant to understanding the molecular world. Topics include atomic and molecular structure, intermolecular forces, physical states of matter, phase transitions, equations of motions, vectors, polynomial equations, and computer-based molecular modeling techniques. Main campus only, web-based delivery. Prerequisites: MATH 121G or consent of instructor.

CHEM 210. Chemistry for the Allied Health Sciences 3 cr.
Discussion and application of the established facts and concepts of general organic chemistry and biochemistry to acquire a molecular understanding of a variety of health related issues, from atmospheric ozone holes to human nutrition. Prerequisite: CHEM 110G or CHEM 111G.

CHEM 211. Organic Chemistry 4 cr. (3+3P)
A one-semester survey for students requiring a brief coverage of important classes of organic compounds. Prerequisite: CHEM 112G or CHEM 114.

CHEM 217. General Chemistry III 3 cr. (2+3P)
Quantitative aspects of general chemistry: solid state structure, equilibrium, thermodynamics, and kinetics. Required of chemical science majors who have taken CHEM 111G/112. Prerequisite: CHEM 112G.

CHEM 241. Introduction to Research 1-3 cr. (3+3P)
Techniques and procedures of chemical research. Prerequisites: 8 credits of chemistry and a 3.0 GPA in chemistry. May be repeated for a maximum of 3 credits.

CHEM 242. Explorations in Chemistry 1 cr.
Historical and current developments, careers in chemistry, computer applications and use of the library by chemists. To be completed before the end of the sophomore year. Graded S/U.

CHEM 303. Organic Supplemental Instruction I 1 cr.
Collaborative workshop for students in Organic Chemistry I. Course does not count toward departmental degree requirements. Corequisite: CHEM 313. May be repeated for a maximum of 2 credits.

CHEM 304. Organic Supplemental Instruction II 1 cr.
Collaborative workshop for students in Organic Chemistry II. Course does not count toward departmental degree requirements. Corequisite: CHEM 314. May be repeated for a maximum of 2 credits.

CHEM 310V. Chemistry and Society 3 cr.
The impact of chemistry on modern society. Does not satisfy chemistry elective requirements for B.S. chemistry majors. Prerequisite: CHEM 110G or consent of instructor.

CHEM 313. Organic Chemistry I 3 cr.
Nomenclature, uses, basic reactions, and preparation methods of the most important classes of aliphatic and aromatic compounds. Prerequisite: CHEM 112G or CHEM 116.

CHEM 314. Organic Chemistry II 3 cr.
Nomenclature, uses, basic reactions, and preparation methods of the most important classes of aliphatic and aromatic compounds. Prerequisite: C or better in CHEM 313.

CHEM 315. Organic Chemistry Laboratory 2 cr. (6P)
Techniques, preparative and analytical methods in organic chemistry. Prerequisite: C or better in CHEM 313 or consent of instructor. Corequisite: CHEM 314.

CHEM 351. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

CHEM 356. Descriptive Inorganic Chemistry 3 cr.
Occurrence and properties of the elements and the chemistry of their compounds. Prerequisites: CHEM 112G and CHEM 116; and CHEM 211 or CHEM 313.

CHEM 357. Synthetic Inorganic Laboratory 2 cr. (6P)
Explores synthesis and analysis of main group and transition metal inorganic compounds. Inorganic laboratory and spectroscopic techniques will be used. Prerequisites: CHEM 356 or concurrent enrollment.

CHEM 360. General Geochemistry 3 cr.
Same as GEOL 360.

CHEM 371. Analytical Chemistry 4 cr. (2+6P)
The fundamentals of quantitative chemical analysis. Prerequisite: CHEM 112G.

CHEM 372. Forensic Chemistry 3 cr. (2+1P)
Theories and laboratory techniques in the areas of forensic chemistry and biochemistry. Prerequisites: CHEM 371 and BCHE 341 or CHEM 371 and BCHE 395 or consent of instructor.

CHEM 421 H. Instrumental AnalysisPHonorases 4 cr. (3+3P)
Same as CHEM 421. Additional work to be arranged.

CHEM 422. Environmental Chemistry 3 cr.
Chemistry of organic and metal ion pollutants in the environment and principles important to their remediation including bioremediation. Prerequisites: CHEM 112G and CHEM 315. Restricted to Main campus only. Crosslisted with: E S 422.

CHEM 424. Soil Chemistry 3 cr.
Same as SOIL/SEOL 424.

CHEM 431. Physical Chemistry I 3 cr.
Principles that govern the physical and chemical behavior of matter. May not be counted toward Bachelor of Science degree in chemistry. Prerequisites: CHEM 116 or CHEM 217, MATH 192G, PHYS 212G and PHYS 216G.

CHEM 431 H. Physical Chemistry I Honorases 3 cr.
Same as CHEM 431. Additional work to be arranged.

CHEM 433. Physical Chemistry I 3 cr.
Laws and theories underlying chemical phenomena.

CHEM 433 H. Physical Chemistry I Honorases 3 cr.
Same as CHEM 433. Additional work to be arranged. Prerequisites: MATH 192G, PHYS 216G, and CHEM 112G.

CHEM 434. Physical Chemistry II 3 cr.
Laws and theories underlying chemical phenomena. Prerequisite: CHE 302 or CHEM 433.

CHEM 434 H. Physical Chemistry II Honorases 3 cr.
Same as CHEM 434. Additional work to be arranged. Prerequisite: grade of C or better in CHEM 434.

CHEM 435. Physical Chemistry Laboratory 2 cr. (6P)
Prerequisite: concurrent registration in CHEM 434.

CHEM 441. Advanced Research 1-3 cr. (3+3P)
Investigation of chemical problems and the development of special techniques. Prerequisites: consent of instructor, 16 credits of chemistry and 3.0 GPA in chemistry for nonmajors. May be repeated for a maximum of 3 credits.

CHEM 442. Glass Blowing 1 cr. (3P)
Techniques involved in sealing, bending, and blowing glass tubing and fabricating special pieces of laboratory apparatus. Prerequisites: CHEM 315, and CHEM 371 and consent of instructor.

CHEM 443. Senior Seminar 1 cr.
Discussions of current chemical research, impact of chemistry on society and/or ethics as applied to chemists. Each student will present a written and an oral report on an approved topic. Prerequisite: CHEM 431 or CHEM 433.

CHEM 444. Senior Thesis 2 cr. (6P)
A writing project for students wishing to prepare a more extensive report than that required for CHEM 443. The thesis may cover independent research, a topic from current chemical literature, or the impact of chemistry on society. May be taken concurrently with CHEM 443. Prerequisite: CHEM 431 or CHEM 433.

CHEM 451. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

CHEM 452. Integrated Advanced Laboratory 3 cr.
Applications of the principles of organic, inorganic, physical, and analytical chemistry to solve particularly defined but open-ended problems in chemistry. Prerequisites: CHEM 315, CHEM 356, CHEM 371, CHEM 433.

CHEM 452 H. Integrated Advanced Laboratory Honorases 3 cr. (1+6P)
Same as CHEM 452. Additional work to be arranged.
CHEM 455. Independent Studies 1-3 cr.
Independent studies directed by consulting faculty. Prerequisite: consent of instructor.

CHEM 456. Inorganic Structure and Bonding 3 cr.
Theoretical principles and a systematic study of the periodic table. Prerequisite: CHEM 356 or CHEM 431 or CHEM 433.

CHEM 456 H. Inorganic Structure and Bonding Honors 3 cr.
Same as CHEM 456. Additional work to be arranged.

CHEM 466. Advanced Organic Chemistry 3 cr.
Recent developments in synthesis and theoretical principles of organic chemistry. Prerequisite: CHEM 314.

CHEM 466 H. Advanced Organic Chemistry Honors 3 cr.
Same as CHEM 466. Additional work to be arranged.

CHEM 471. Instrumental Methods of Analysis 4 cr. (3+3P)
Analytical techniques, including optical and procedures. Prerequisites: CHEM 371 and either PHYS 212G or PHYS 216G.

CHEM 472. Analytical Methods for Toxic Organics and Metal Ions in the Environment 3 cr. (2+3P)
Laboratory course with lectures on principles of analytical techniques related to environmental monitoring of pollutants and waste management. Prerequisite: CHEM 371 or CHEM 462 or consent of instructor.

CHIN - CHINESE
Students may not receive credit for a lower level course which is a prerequisite to a higher level course for which credit has been received or which is being taken for credit. Exceptions must have prior approval of the head of the department.

CHIN 111. Elementary Chinese I 4 cr.
Mandarin Chinese for beginners.

CHIN 112. Elementary Chinese II 4 cr.
Mandarin Chinese for beginners. Prerequisite: C or better in CHIN 111.

CHIN 211. Intermediate Chinese I 4 cr.
Speaking, reading and writing Mandarin Chinese. Prerequisite: C or better in CHIN 112.

CHIN 212. Intermediate Chinese II 4 cr.
Speaking, reading and writing Mandarin Chinese. Prerequisite: C or better in CHIN 211.

CHSS - COMMUNITY HEALTH AND SOCIAL SERVICES
CHSS 100. Introduction to Health and Social Services 1 cr.
Introduction to professional opportunities in nursing, social work, public health, community health, and environmental/occupational health. Graded S/U.

CHSS 101. Overview of Health and Community Services 3 cr.
Health and community service professions with emphasis on public health, community health education, and environmental/occupational health.

CHSS 216. Ethical and Research Issues in Human and Community Service 3 cr.
Ethical and legal responsibilities of health personnel, with emphasis on research applications. Web-facilitated course, which may be offered also through distance education format. Same as CHSS 216 with differentiated assignments for students in CHSS 316, but students may not receive credit for both CHSS 216 and CHSS 316.

CHSS 299. Service Learning Experience in Human and Community Services 1-6 cr. (50P)
Exploration of contemporary social, civic, economic and ethical problems that require student participation in collaborative efforts within the community. This web-enhanced course will include bimonthly meetings. Requires 50 clock hours of community-based service for each credit hour. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

CHSS 316. Ethical and Research Issues in Human and Community Service 3 cr.
Ethical and legal responsibilities of health personnel, with emphasis on research applications. Web-facilitated course, which may be offered also through distance education format. Same as CHSS 216 with differentiated assignments for students in CHSS 316, but students may not receive credit for both CHSS 216 and CHSS 316.

CHSS 463. Interdisciplinary Seminar 3 cr.
Same as CHSS 463 and MPH 563.

CHSS 470. Creation and Use of Media for Health and Social Services 3 cr. (2-2P)
Basic application and creation of media products in health and social services. Two hours of lectures plus two hours lab each week. Prerequisite: consent of instructor. Restricted to HL S, BSN, BSNC, BSNR and HCS majors.

CHSS 480. Independent Study 1-3 cr. (30P)
Individual study with prior approval of CHSS Dean. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

CMI - CINEMA & FILM/VIDEO PRODUCTION
CMI 100. Introduction to Cinema 3 cr.
CMI 100 is an introductory class for those seeking to be Creative Media (CMI) majors. Students will develop and enhance creative thinking skills and digital media literacy as well as build a better understanding of production practices. Restricted to: Main campus only.

CMI 160. Modeling and Animation 3 cr.
Modeling and animating objects and scenes in a 3D environment using cameras and lighting effects.

CMI 206. Sound Design 1 3 cr.
Focuses on the techniques for creating, recording and manipulating sounds through challenging sound design projects.

CMI 207. Introduction to Cinematography 3 cr.
Theories and techniques of visual design in ideography and the aesthetics of lighting.

CMI 214. Acting for Film 3 cr.
Techniques for film and television acting. Differences between film and live theater acting. How film performances are created among actor, director, writer, cinematographer, and editor. Guests will include a professional cinematographer and editor.

CMI 216. Editing I 3 cr.
Focuses on individual editing skills including capture, interface, basic cuts, and transitions.

Overview of digital animation and introduction to creating computer-generated imagery and sequences for animation and film. Survey industry standard job positions, production workflow, software and techniques, and CMI curriculum as it applies to entertainment and information media.

CMI 231. History of Animation 3 cr.
Examines the history of animation as an art form and industry through screenings and guest lectures.

CMI 232. Storyboarding 3 cr.
Examine effective writing principles for creating storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Restricted to: Main campus only.

CMI 235. Narrative: Principles of Story Across the Media 3 cr.
Examines the various strategies of narrative structure and its principle components (plot, theme, character, imagery, symbolism, point of view) with an attempt to connect them to elements of contemporary forms of media expression. Crosslisted with: ENGL 235
CMI 250. Beginning 2-D Animation 3 cr.
Visualizing in two dimensions using perspective, timelines, and storyboard.
Prerequisite: ART 150

CMI 260. Foundations of Computer Animation 3 cr.
Overview of digital animation and introduction to creating computer generated elements and sequences for animation and cinema. The course will survey specialty areas of digital animation and the software and techniques applied in entertainment and information media. Restricted to: Main campus only.

CMI 280. Modeling 3 cr.
Introduction to 3D modeling methods and current practice. Preliminary and detailed modeling techniques using industry standard software, including mechanical, organic and sculpted topology for application in animation, games, engineering, architecture or simulation.

CMI 300. 3-D Animation 3 cr.
Overview of the essentials and principles of 3D animation; creative methods for using industry standard tools to produce the illusion of movement for story telling. Topics include, keyframe and curve animation, kinematics, cycle animation, camera animation, deformers, and constraints. LC Campus Only. Prerequisites: CMI 260.

CMI 301. Sound Design II 3 cr.
Mixing and balancing dialogue, sound effects and music in postproduction. Study the role of sound effects, foley, soundtrack choices, and music supervision. Prerequisite: CMI 200

CMI 305. Business of Filmmaking/Animation 3 cr.
Explores the roles of unions, basic contracts, legal arrangements, and the economics of the production process, distribution, and financing. Prerequisite: CMI 235.

CMI 308. Screenwriting I 3 cr.
Writing intensive. Students write a 15-30 minute screenplay, honing skills in dialogue, character, dramatic action and film environment. Scenes will be performed and discussed in class daily. Prerequisite(s): ENGL/CMI 235. Crosslisted with: ENGL 309

CMI 310. Advance Cinematography 3 cr.
Advanced tools of the cinematographer, lighting and composition techniques. Artistic and technological elements of cinematography. Prerequisite: CMI 205

CMI 311. Editing II 3 cr.
Focused techniques in digital films using professional non-linear editing systems. Prerequisite: CMI 216

CMI 315. Adventures in Genre 3 cr.
Examines the various structural genres and components of screenplays and films. Students learn storytelling strategies for the screen by reading scripts and watching the corresponding films and discussing the architecture of the script itself within a structural genre. Prerequisite(s): CMI 235 - Principles of Story.

CMI 318. Documentary Production & Narrative 3 cr.
Students will begin to examine the documentary genre. A survey of the theory and history of documentary film making will include viewings and discussions of notable films and directors. The class will conclude with a proposal for a student documentary project Prerequisite(s): CMI 216.

CMI 322. 3-D Character Animation 3 cr.
Essentials and principles of 3D character animation. Techniques and craft of breathing life into characters through movement including dynamic poses, blocking action, run and walk cycles, lip syncing and realism. THTR 110 Acting and CMI 200 Sound Design are recommended. Prerequisites: CMI 260

CMI 333. Light, Shade, Render 3 cr.
Explores rendering techniques using cameras, lighting sources, textures, surface-mapping and algorithmic rendering to produce stylized and photorealistic images. Prerequisites: CMI 260.

CMI 341. Visual Effects 3 cr.
Fundamentals and principles of live action footage and computer generated imagery integration including 3D animation, matchmoving, green screen setup, keying and compositing. Prerequisites: CMI 205, CMI 260, and CMI 333.

CMI 350. Intermediate 2-D Animation 3 cr.
Continued development and techniques in the use of keyframes and vector graphics in the two dimensional space. Prerequisite: CMI 250.

CMI 357. Computer Scenographics 3 cr.
Project-oriented course teaching basic computer modeling skills. Projects focus on the creation of communication tools designers use in the theatrical process. Students will develop portfolios of completed projects. Same as: THTR 357. Prerequisites: THTR 352, THTR 353, or THTR 355; and consent of instructor.

CMI 360. Previsualization 3 cr.
Implements 3D animation tools in preproduction shot and sequence design for motion picture and broadcast industries; including 3D storyboarding, technical planning and editing basics. LC Campus Only. Prerequisites: CMI 260, CMI 280, and CMI 300 or consent of instructor.

CMI 365. Character Design and Development 3 cr.
Detailed 3D character design and creation from concept through production including modeling, texturing, rigging, weighting and animation. Prerequisites: CMI 260 and CMI 280

CMI 395. Directing 1 3 cr.
Study and application through short scene work of basic tools of director and of relationships with actors, designers, playwright, and stage manager. Interpreting as well as organizing. Prerequisite: THTR 130

CMI 398. Directing II 3 cr.
Addresses pre-production concerns including script breakdown, casting ground plans and coverage. The criteria employed when selecting the creative team including a director of photography, art director, light, sound and wardrobe designers. Introduction to budgeting, scheduling, and script breakdowns. Prerequisite: CMI 395

CMI 397. Practicum 1-3 cr.
Practical application of student’s field of study in a project environment. Consent of instructor required.

CMI 398. Special Topics 1-3 cr.
Course addresses specific subjects and issues as identified by department. Topics and credits to be announced in the Schedule of classes. May be repeated up to 9 credits.

CMI 400. Directed Studies 1-6 cr.
Directed study course in CMI under the supervision of a CMI faculty member. May be repeated up to 9 credits.

CMI 401. Motion Capture Techniques 3 cr.
Implement industry standard MOCAP techniques to capture and integrate performance for movie making and 3D animation. LC Campus Only. Prerequisites: CMI 205, CMI 260, and CMI 341.

CMI 420. Short Film Production 3 cr.
Students work in teams with rotating crews to write, produce, direct and edit individual and group projects—ultimately demonstrating growing confidence with production equipment and professional practices. May be taken up to 6 credits. Corequisites: CMI 328. Prerequisites: CMI 200, CMI 216, CMI 260, and CMI 395.

CMI 433. 3-D Sets and Environments 3 cr.
Digital environment design and creation for movies from concept to production; including illustration, modeling, matte painting, texturing, lighting, rendering, integration, and camera projection. LC Campus Only. Prerequisites: CMI 260, CMI 280, and CMI 333.

CMI 441. Advanced Visual Effects 3 cr.
Advanced integration of live action footage and computer generated imagery, including high dynamic range imagery, photogrammetry, compositing, 3D animation and rendering. Prerequisites: CMI 260 and permission of instructor.
CMT 100. Introduction to Visual Communications 3 cr.
Advanced techniques in two dimensional animation including motion graphics and integration of live action. Prerequisite: CMI 350

CMT 107. Introduction to Creative Media 3 cr.
Overview of creative processes in digital media, incorporating art, design, typography, layout, color and imagery, logos and advertising basics. Same as OEGR 105.

CMT 108. Introduction to Web Design 1 cr.
Basics of creating simple web sites for personal use.

CMT 120. Introduction to Creative Media 3 cr. (2+2P)
Exploration and discovery of the creative processes through art, music, theater, narrative, and other avenues.

CMT 126. Film Crew Training I 9 cr.
Introduction and hands-on experience in all craft areas of film production.

CMT 130. Introduction to Web Design 3 cr. (2+2P)
Introduction to web development techniques, theory, and design. Incorporates HTML and industry-standard web editing software in developing various web sites. Community Colleges only.

CMT 135. Introduction to 3D Computer Animation 3 cr. (2+4P)
Learning to work in a 3D environment. Introduction to the basics of modeling, animation, dynamics, and rendering. Working with polygons, NURBS and subdivisions, and editing in multiple interfaces. May be repeated for a maximum of 6 credits.

CMT 142. Computer Illustration 3 cr. (2+2P)
Preparation of digital graphics with a vector or draw program for use in print, web, video, animations, and multimedia. May be repeated for a maximum of 6 credits.

CMT 145. Image Processing I 3 cr. (2+2P)
Design and creation of digital graphics using a raster or bitmap program for use in print, multimedia, video, animation and web. May be repeated for a maximum of 6 credits.

CMT 146. Digital Foundations 4 cr. (2+4P)
Accelerated course covering concepts and techniques of industry-standard raster and vector graphics programs with focus on design and application. May be repeated for a maximum of 8 credits.

CMT 150. 2D Animation 3 cr. (2+2P)
Concepts and techniques in storyboarding and creating interactive 2D animations for web, multimedia and video. Prerequisites: CMT 142 or CMT 146.

CMT 151. Evolution of Electronic Games 3 cr. (2+2P)
Focus on the evolution of video games and how they have shaped mainstream entertainment. May be repeated up to 6 credits.

CMT 155. Selected Topics 1-4 cr.
Specific titles to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits. Same as OEGR 155.

CMT 156. Film Crew Training II 9 cr.
In-depth training in specific craft areas. Prerequisite: CMT 126. Restricted to Community Colleges.

CMT 160. Modeling and Animation 3 cr. (2+2P)
Building on student’s knowledge of 2D animation, covers modeling and animating objects and scenes in a 3D environment using various camera and lighting effects. May be repeated for a maximum of 6 credits. Prerequisite: CMT 150.

CMT 165. Writing and Storyboarding 3 cr. (2+2P)
Learning good writing principles to create storyboards and scripts that communicate the overall picture of the project, timing, scene complexity, emotion, and resource requirements. Prerequisite: CMT 135 or CMT 160.

CMT 170. History of Film: A Global Perspective 3 cr.
Explores the history of cinema from the earliest 19th century developments to the present digital video revolution. Offers students a broader base of understanding of the tools and methodologies used in the craft.

CMT 175. 3-D Character Design 3 cr. (2+4P)
Focus on designing a character and then taking that design and building it in 3D using intermediate modeling techniques. Prerequisite: CMT 135 or CMT 160. May be repeated for a maximum of 6 credits.

CMT 180. Principles of Media Design 3 cr. (2+2P)
Techniques and theories of design principles, including layout foundations, logo building, type, color, and story-boarding and their application to print, web, animation and video. Prerequisite: CMT 142 or CMT 146.

CMT 182. Environmental Modeling, Shading and Lighting 3 cr. (2+4P)
Modeling design techniques to create natural and architectural environments to be used for animated films and gaming. Study of various lighting techniques, shading and shadowing. Prerequisite: CMT 135 or CMT 160.

CMT 183. 3D Shading and Lighting Techniques 3 cr. (2+4P)
Study of various global, scene and character lighting techniques, shading and shadowing, and creating atmospheres and reflections that bring computer generated 3D scenes to life. Examines environmental and studio lighting to bring real life experience into the digital production process. Prerequisite: CMT 135 or CMT 160.
CMT 190. Digital Video Production I 3 cr. (2+4P)  
A hands-on study of the tools and techniques used to produce the independent video. Through the production of various short projects, the student explores how the ideas of the writer/director are translated into a visual story. May be repeated for a maximum of 6 credits.

CMT 192. Acting for the Camera 3 cr. (2+2P)  
Covers acting techniques, body movement, monologues and auditioning. Students will gain professional acting experience on camera as well as learn what is expected on a film or video set. Restricted to: Community College campuses only.

CMT 195. Digital Video Editing I 3 cr. (2+2P)  
A study of the basic tools and techniques of non-linear digital video editing. May be repeated for a maximum of 6 credits.

CMT 200. Critical Game Studies 3 cr. (2+2P)  
Focus on creating a complete design document utilizing techniques and standards used in the industry today. May be repeated for up to 6 credits. Prerequisite: CMT 175.

CMT 205. Cinematography 3 cr. (2+2P)  
Theory and techniques of visual design in cinematography and the aesthetics of lighting. Prerequisite: CMT 190. May be repeated for a maximum of 6 credits.

CMT 206. Principles of Sound 3 cr. (2+2P)  
A study of the development of soundtracks for media, which includes sound recording, composing music with software, digital audio editing, soundtrack design, processing and mixing audio for final delivery formats. Prerequisite: CMT 195. May be repeated for a maximum of 6 credits.

CMT 210. Digital Video Production II 3 cr. (2+2P)  
Advanced techniques of the tools and application of professional film making. Prerequisite: CMT 190. May be repeated for a maximum of 6 credits.

CMT 215. Digital Video Editing II 3 cr. (2+2P)  
Advanced features of digital video, audio/music, and titling production software. Included are color correction, vector scopes, motion effects, and advanced editing techniques used by filmmakers. Prerequisite: CMT 195 or OEGR 210. May be repeated for a maximum of 6 credits. Same OEGR 215.

CMT 216. Digital Photography and Imaging II 3 cr. (2+2P)  
Provide understanding and skills needed for advanced digital capture, editing, optimizing and manipulating photographic images for print, web and multimedia applications. The course will prepare students to make more advanced technical and more refined aesthetic decisions relative to specific photographic applications. Prerequisite: CMT 115 and CMT 145.

CMT 220. Environmental Scene Design 3 cr. (2+4P)  
Modeling design techniques used to create environments and scenes for use in animated films and games. Introduction of both natural and architectural environments to be recreated in the virtual world. Prerequisite: CMT 135 or CMT 160.

CMT 221. Cooperative Experience 1-3 cr.  
Student will be employed in approved work site; supervised and rated by employer and instructor. Each credit requires specific number of hours of on-the-job work experience. Prerequisite: consent of instructor. May be repeated for a maximum of 9 credits. Graded S/U.

CMT 222. Pre-production Management 3 cr. (2+2P)  
Pre-production planning paperwork breakdowns, budgeting, and scheduling; taking a project from start to finish from a producers standpoint. Prerequisite: CMT 190

CMT 223. Media Production Services 1-3 cr.  
A design studio environment in which students obtain real-world experience while providing service to college and non-profit associations with faculty supervision. Using a variety of media, can be used with permission to fulfill cooperative requirement. Prerequisite: CMT 180 or ART 163. May be repeated for a maximum of 6 credits.

CMT 225. Anatomical Character Design 3 cr. (2+4P)  
Focus on building anatomy-based 3D characters. Advanced study in NURBS, subdivisions, and polygon modeling techniques used to create fully functional and realistic models. Prerequisite: CMT 175. May be repeated for a maximum of 6 credits.

CMT 226. Film Crew Experience 6 cr.  
Industry production experience in specific craft areas for film crew technicians who have successfully completed two semesters of FTPP. Prerequisite(s): CMT 156. Restricted to: All Community Colleges.

CMT 227. Advanced Character Animation 3 cr. (2+2P)  
Focus on complex rigging techniques as well as utilizing advanced animation functions to blend multiple animations into complex animations. May be repeated for a maximum of 6 credits. Prerequisite: CMT 175.

CMT 228. Level Design Concepts 3 cr. (2+2P)  
Focus on the design and creation of video game levels. Dealing with the challenges and pitfalls of different video game genres. May be repeated for a maximum of 6 credits. Prerequisite: CMT 200

CMT 230. Web Design II 3 cr. (2+2P)  
Creating and managing well-designed, organized web sites using HTML and web development software. Prerequisite: CMT 145. May be repeated for a maximum of 6 credits. Same as OEGR 230. Community Colleges only.

CMT 232. Script Development & Storyboarding 3 cr.  
Examines effective writing principles for creating storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Same as ENGL 232 and CMT 232.

CMT 235. Web Design for Small Businesses 3 cr. (2+2P)  
Technology and techniques for designing and building a web presence for small business. Prerequisite: CMT 230. May be repeated for a maximum of 6 credits. Same as OEGR 225.

CMT 240. Print Media II 3 cr. (2+2P)  
Focusing on general techniques using advanced features of page layout software in preparing a variety of business-related documents. Prerequisite: CMT 140 or OEGR 140. May be repeated for a maximum of 6 credits.

CMT 241. Game Animation I 3 cr. (2+2P)  
Introduction to basic game play theory of 3D game design, including levels, character development and game playing concepts. Prerequisite: CMT 160.

CMT 242. Advanced Computer Illustration 3 cr. (2+2P)  
Advanced techniques in 2D vector drawing and fundamentals of 3D illustration for use in print, web, and multimedia applications. Prerequisite: CMT 142. May be repeated for a maximum of 6 credits. Same as OEGR 270.

CMT 245. Image Processing II 3 cr. (2+2P)  
Advanced techniques in editing and manipulation of raster images for digital graphics for print, multimedia and web. Prerequisite: CMT 145. May be repeated for a maximum of 6 credits. Same as OEGR 290.

CMT 246. Professional Digital Audio Applications 3 cr. (2+2P)  
Advanced techniques in digital audio composing, recording, editing, processing, mixing and mastering. Media industry standards are taught using current professional level digital audio equipment and computer software. Prerequisite(s): CMT 206. Restricted to: Community College campuses only.

CMT 250. Advanced Graphics for Digital Media 3 cr. (2+2P)  
Advanced techniques in design and creation of high-level 2D animations and interactive interfaces for web, multimedia, and video. Prerequisite: CMT 190. May be repeated for a maximum of 6 credits.

CMT 251. Gaming Platform and Standards 3 cr. (2+2P)  
Focus on the different gaming platforms and their corresponding gaming demographics and standards. May be repeated for a maximum of 6 credits. Prerequisite: CMT 200.

CMT 252. Game Tools and Techniques 3 cr. (2+2P)  
Focus on the different engines and gaming technologies that power the games of today. May be repeated for a maximum of 6 credits. Prerequisite: CMT 200.

CMT 254. History of Media Design 3 cr.  
An introduction to the principles of design history and theory within a chronological framework of historical and emerging media.

CMT 255. Special Topics 1-4 cr.  
Specific topics to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits.

CMT 256. Typography 3 cr.  
Foundation in typography with an emphasis on history of typography and the practical application and impact of font choices for print, web, animation and video. Deals with studies in font or letter construction and font choices focusing on design, application, incorporation and visual impact.

CMT 258. Advanced Camera Techniques 3 cr. (2+2P)  
Professional camera techniques and training for electronic news gathering and studio filmmaking. Utilizes high-end handheld shooting techniques, cranes, dollies, and steadicam training. May be repeated for a maximum of 6 credits. Prerequisite: CMT 190.

CMT 260. 3D Special Effects 3 cr. (2+4P)  
Creating advanced virtual special effects for both rigid and soft bodies. Using MEL, dynamic principles, mixing nodes, and advanced particle systems. How to drive particles over surfaces, add texture to flow, create surface tension, and use collision events to drive texture. Study of integrating computer-generated images with real-life video and audio. Prerequisite: CMT 180 or CMT 225.
**COLL - COLLEGE STUDIES**

**COLL 101. College/Life Success**
1 credit (1-3 cr.)
Provides students with an opportunity to cultivate the skills, values, and attitudes necessary to become confident, capable students, and contributing community members. Topics include time management, memory techniques, relationships, health issues, money management, and college and community resources.

**COLL 102. Path Finder: Creating a Journey into the Future**
1 credit
Introduction through live video conferences with NASA scientists on how math, science, engineering, and technology are being used in the real world. Training in the application of the success skills of proactivity, goal setting, goal attainment, synergy, and renewal. Use of Native American traditional stories as a path to personal discovery and achievement.

**COLL 103. Managing Your Money**
1 credit
Principles and strategies for effective money management. Includes financial goal setting, both short and long term. Explores the relationship between career and income earning potential. Explores issues of credit and debt management and prevention of identity theft. Taught completely on-line via webCT; a mini-semester course.

**COLL 104. Academic Reading and Study Skills**
1-4 credits
Introduction to and practice with strategies for effective reading and studying at the college level. Provides laboratory.

**COMM- COMMUNICATION STUDIES**

**COMM 253G. Public Speaking**
3 credits
Principles of effective public speaking, with emphasis on preparing and delivering well-organized, logical, and persuasive arguments adapted to different audiences.

**COMM 255G. Principles of Human Communication**
3 credits
Study and practice of interpersonal, small group, and presenational skills essential to effective social, business, and professional interaction.

**COMM 285. Survey of Communication Theory**
3 credits
Exploration of concepts and methods of study in oral communication. Primarily for majors.

**COMM 290. Independent Study**
1-3 credits
Individualized, self-paced projects for students with a special interest in communication topics. Prerequisites: COMM 255G and sophomore standing. May be repeated for a maximum of 6 credits.

**COMM 291. Special Topics**
1-3 credits
Specific subjects and credits to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits.

**COMM 305. Communication Research Methods**
3 credits
Introductory course in communication research. Emphasis on how to be an effective consumer of research.

**COMM 351. Persuasion Theory and Practice**
3 credits
Training in understanding and applying the principles and techniques of argumentation and persuasion.

**COMM 353. Advanced Public Speaking**
3 credits
This is an advanced course in the composition and delivery of speeches. It extends the concepts taught in COMM 253G. Prerequisite: COMM 253G or COMM 269S, or consent of instructor.
COMM 370. Organizational Communication 3 cr.
Communication strategies and patterns of private and governmental organizations, including research on the communication process.

COMM 376. Communication and Culture 3 cr.
Cultural and intercultural communication theory and behavior, with a concentration on the development of specific communication skills which should facilitate effective intercultural communication.

COMM 377. Conflict Management 3 cr.
Communication strategies to manage and negotiate conflict in interpersonal, intergroup, and organizational settings.

COMM 384. Interpersonal Communication 3 cr.
Theories of interpersonal communication and relational communication, including study of relevant models, contexts and constructs.

COMM 425. Small Group Communication 3 cr.
Principles and methods of modern group discussion with emphasis on the role of the group in problem solving.

COMM 435. Psychology of Human Communication 3 cr.
In-depth examination of psychological processes involved in interpersonal communication. Covers person perception and message production.

COMM 440. Political Communication 3 cr.
Presidential and congressional campaigns, political persuasion techniques, political advertising, power in language, and media aspects of political information. Ideology, resistance to political manipulation, and dependence of democracies on communication.

COMM 445. Communication, Ethnicity, and Prejudice 3 cr.
Examines the political aspects of communication about ethnicity and between ethnic groups. Topics include how people think about race categories, ethnicity, and prejudice; how communication is affected by prejudice, and how communication can be improved by dealing with stereotypes, prejudice, and discrimination.

COMM 450. Technologies of Human Communication 3 cr.
Development and evolution of human communication technologies from prehistory through the future of computer-mediated communication networks. Examines behavioral, cognitive, social, cultural, and political issues of new communication technologies and their use and management. Prerequisite: junior or senior standing.

COMM 460. Deception and Communication 3 cr.
Deceptive communication including nonverbal indicators of lies, types of lies, and influence of relationships on lying behavior and interpretation.

COMM 462. Family Communication 3 cr.
A communication perspective on traditional and nontraditional family configurations, roles, interaction patterns, and conflict. Includes an examination of media depictions of families and family interaction, as well as current social and political issues related to the family. Same as W S 462 and FCS 462.

COMM 463. Communication and Gender 3 cr.
Study of communication, gender and culture, including theoretical approaches to gender development, the implications of gender identity, gendered patterns of verbal and nonverbal communication, and the rhetorical dimensions of gender. Discussion of gendered communication in the workplace, as well as the influence of media on gender. Same as W S 463.

COMM 465. Nonverbal Communication 3 cr.
Study and experimentation with nonverbal aspects of human communication as vital components of the total communication process.

COMM 470. Leadership Communication 3 cr.
Examination of traditional theories and concepts of leader-follower dynamics; presentation of cognitive, systems, and symbolic interpretive views of leadership with an emphasis on persuasion and motivation in leader-follower interactions.

COMM 473. Interpersonal Problems in the Organization 3 cr.
Explores the connection between the interpersonal and organizational contexts. Prerequisites: COMM 370 and COMM 384.

COMM 475. International Communication 3 cr.
Exploration of the forms and channels of communication substantially influenced by international cultural and political factors. Covers: global communication technology; news, information and entertainment flows; international diplomacy and negotiation, communication in war and peace.

COMM 480. Health Communication 3 cr.
Examination of central issues in communication theory and practice as applied to health care. Includes communication in health care organizations, media dissemination of health information, role of communication in disease prevention and health promotion, and symbolic meaning of illness within cultures.

COMM 483. Communication in Friendships and Romantic Relationships 3 cr.
Examines communication in adult friendships and romantic relationships that do not have legal commitments. Includes trends in friendships, benefits and problems within cross and same-sex friendships and romances, gender differences in communication within adult friendships and romances and the communication of friendship and romance on the Internet. Prerequisite: COMM majors or consent of instructor.

COMM 484. Verbal Communication 3 cr.
Examination of rules governing conversational structures such as speech acts, action sequences, topics and topic shifts. Also covers humor in conversation and conversational control.

COMM 485. International Teaching Assistant Development 3 cr.
International teaching assistants will receive instruction in communicative skills to enable them to meet their responsibilities at NMSU. Course includes lectures, seminars, video-taped presentations, and tutorial sessions emphasizing pedagogic and presentation skills and styles. Prerequisite: consent of instructor.

COMM 490. Independent Study 1-3 cr.
Individualized, self-paced projects for advanced students. Prerequisites: COMM 265G and junior standing with consent of participating instructor. May be repeated for a maximum of 6 credits.

COMM 491. Selected Topics 1-6 cr.
Individual and/or group study of selected topics. To be identified by subtitle. Prerequisite: prior arrangement with faculty supervisor(s). May be repeated for a maximum of 12 credits.

COMM 491 H. Selected Topics 1-6 cr.
Same as COMM 491. Additional work to be arranged. May be repeated for a maximum of 12 credits.

COMM 496. Communication Internship 3 cr.
Internship opportunity to apply what has been learned to a real-world situation. Prerequisite: junior standing and 3.0 GPA in major. May be repeated for a maximum of 6 credits. Restricted to majors.

CTFM- CLOTHING, TEXTILES AND FASHION MERCHANDISING

CTFM 178. Fundamentals of Fashion 3 cr.
Survey of the fashion business from fiber to end product.

CTFM 200. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a total of 9 credits toward a degree.

CTFM 255. Applied Principles in Clothing Selection 3 cr.
Application of art principles in the study of clothing, emphasizing fashion terminology, for the application of clothing selection to personal and client use. Interrelationships of clothing and behavior from the aspects of culture and business environment are explored.

CTFM 270. Fashion Illustration 3 cr. (1+4P)
Human figure sketches and fashion illustration as a form of communication. Emphasis on color, proportion, cut, and fabric detail. Prerequisites: CTFM 255, ART 110G.

CTFM 273. Concepts in Apparel Construction 3 cr. (1+4P)
Application of generalizations and principles of garment construction to varied fabrics and designs. Analysis and evaluation of apparel merchandise with emphasis on the quality of garment construction.

CTFM 300. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a total of 9 credits toward a degree.

CTFM 365. Historic Fashion IIP1700 to Present 3 cr.
A study of the clothing worn and produced by and for families from 1700 to present. Prerequisite: CTFM 364 or consent of instructor.

CTFM 366. Historic Fashion IIP Clothing produced by and for families from ancient times to the present. Prerequisite: CTFM 178 or consent of instructor.

CTFM 371. Textile Science 3 cr. (1+4P)
Study of fabrics used for modern clothing, furnishings, and miscellaneous end uses. Textiles testing procedures explored. Prerequisites: CHEM 110G or consent of instructor.

CTFM 372. Fashion Merchandising 3 cr.
The apparel industry from designing through manufacturing and distribution to retailers. Prerequisites: CTFM 178, and CTFM 255.
CTFM 394. Clothing for Special Needs 3 cr.
Selection, adaptation, and design of clothing that is functional and attrac-
tive for special needs populations such as for active sportswear, the
handicapped, the elderly, and various specialty populations. Prerequisite:
consent of instructor.
CTFM 402. Field Experience Marketing Training 3-6 cr.
Practical experience in clothing manufacturing or retailing. Supervised
by resident faculty and supervisor at the work site. Report required. Pre-
requisite: junior or senior standing, student must have completed half of
the CTFM degree requirements, CTFM 372, an overall GPA of at least 2.5
and consent of instructor. May be repeated for a maximum of 6 credits.
Restricted to majors.
CTFM 470. Fashion Trend Analysis 3 cr.
Exploration of various sociocultural factors that influence the consumer’s
acceptance or rejection of fashion trends past. Current and future patterns
identified, described, and analyzed. Prerequisite: junior, senior, graduate
standing, or consent of instructor.
CTFM 474. Fashion Promotion 3 cr.
Application of media to the communication of clothing information to the
public. Prerequisite: CTFM 372 or consent of instructor.
CTFM 475. Fashion Buying 3 cr.
Fundamental principles and procedures for successful merchandising
of fashion goods, responsibilities of buyers, fashion trends, consumer
demands, and merchandising arithmetic. Prerequisites: ACCT 251, CTFM
372, and CTFM 474.
CTFM 476. Apparel Design by Draping 3 cr. (1+4P)
Theory and application of design in various fabrics and styles using three-
dimensional forms in solving problems and developing designs. Prerequi-
tes: CTFM 273.
CTFM 489. Fashion Markets 2 cr.
Investigation of fashion merchandising activities through market visits in
major fashion centers. Supervised by resident faculty. A report is required.
Prerequisite: CTFM 372 or consent of instructor. May be repeated for addi-
tional credit.
CTFM 492. Special Problems 1-4 cr.
Individual research study in a selected subject area of family and con-
sumer sciences. Maximum of 4 credits per semester and a total of 6 credits
toward a degree.

DANC- DANCE

DANC 101G. Dance Appreciation 3 cr.
An investigation of movement, dance and choreographic work as a vehicle
for understanding culture. Includes concepts in dance appreciation,
themes and purposes of dance analysis of dance works, exposure to dif-
ferent styles of dance and understanding the roles and effects of major
historical periods. Restricted to: Main campus only.
DANC 108. Argentine Tango I 1 cr.
Introduction to skills and techniques of Argentine Tango.
DANC 110. Classical Spanish Dance I 1 cr.
Introduction to castanets and basic classical Spanish dance vocabulary.
Prerequisite: DANC 122. May be repeated for a maximum of 2 credits.
DANC 120. Ballet Folklorico I 1 cr.
Introductory course in folklorico dances of New Mexico and Mexico. May
be repeated for a maximum of 2 credits.
DANC 121. Western Dance 1 cr.
Introductory Western dance, including two-step, polka, waltz, Western
swing, and cotton-eyed Joe.
DANC 122. Introduction to Latin Social Dance 1 cr.
Introduction to Latin social dance for non dance majors. Students will
learn basic Latin dance technique and partnering work. Restricted to: Main
campus only.
DANC 123. Ballet Technique I 1 cr.
Introduction to basic ballet technique, vocabulary, and history. Includes
practical application of anatomical placement, posture and control through
participation and academic study. May be repeated for a maximum of 2
credits.
DANC 124. Jazz Technique I 1 cr.
Introduction to basic jazz technique, styles, and history through partici-
pation and academic study. May be repeated for a maximum of 2 credits.
DANC 125. Introduction to Ballroom Dance 1 cr.
Introduction to ballroom dance for non dance majors. Students will learn
basic ballroom technique and partnering work. Restricted to: Main campus
only.
DANC 126. Modern Dance Technique I 1 cr.
Introduction to and development of basic modern dance technique, his-
tory, and aesthetics through participation and academic study. May be
repeated for a maximum of 2 credits.
DANC 127. Tap Dance I 1 cr.
Introduction to skills and techniques of tap dance. May be repeated for a
maximum of 2 credits.
DANC 128. Social Dance 1 cr.
Focused instruction in one or more specializedballroom or Latin dance
forms.
DANC 129. Flamenco I 1 cr.
Introduction to skills and techniques of flamenco dance. May be repeated
for a maximum of 2 credits.
DANC 203. Performance and Production 1 cr.
Participation in dance performance or administrative preparation under
faculty direction. May be repeated for a maximum of 4 credits. Consent of
instructor required. Restricted to: Main campus only.
DANC 204. Dance Sport I 1-2 cr.
Performance-based, team formation dance in a variety of Latin and ball-
room dances, Prerequisites: consent of instructor and one of DANC 121,
DANC 122, DANC 125, or DANC 128. May be repeated for a maximum of 8
credits.
DANC 205. Dance Ensemble I 1-2 cr.
Performance-based instruction for students pursuing a career in dance
performance. Instruction includes dance repertory and choreography
for stage, outdoor arenas, and site-specific areas. Consent of instructor
required. May be repeated for a maximum of 12 credits. Consent of instruc-
tor required. Restricted to: Main campus only.
DANC 209. Argentine Tango II 1 cr.
Intermediate study in Argentine tango, its cultural heritage and pedagogy
methods. Prerequisite: consent of instructor. May be repeated for a maxi-
mum of 2 credits.
DANC 210. Classical Spanish II 2 cr. (1+3P)
The study of theory, techniques, and practice of Classical Spanish at the
intermediate level. Includes historical and cultural contexts of this art form.
Prerequisite: DANC 110.
DANC 220. Ballet Folklorico II 2 cr. (1+3P)
The study of theory, techniques, and practice of Ballet Folklorico at the
intermediate level. Includes historical and cultural contexts of this art form.
Prerequisite: Dance 120.
DANC 221. Intermediate Western Dance 1 cr.
Advanced skills in two-step, waltz, polka, swing, and Western line dances.
Prerequisite: DANC 121 or consent of instructor.
DANC 222. Latin Social Dance I (Bronze Level) 1 cr.
Beginning level Latin dance technique, partnering work, and cultural
significance through participation and academic study. Course must be
passed with a grade of C or higher. Prerequisite(s): DANC 122 or consent
of instructor.
DANC 223. Ballet Technique II 2 cr.
Continued study of classical ballet technique, vocabulary, and history
through participation and academic study. Prerequisite: DANC 123 or con-
sent of instructor. May be repeated for a maximum of 4 credits.
DANC 224. Jazz Technique II 2 cr.
Continued study of jazz technique and history through participation and
academic study. Prerequisite: DANC 124 or consent of instructor. May be
repeated for a maximum of 4 credits.
DANC 225. Ballroom Dance I 2 cr. (1+2P)
Beginning level ballroom technique, partnering work, and cultural signifi-
cance through participation and academic study. Course must be passed
with a grade of C or higher. Prerequisite(s): DANC 125 or consent of in-
structor.
DANC 226. Modern Dance Technique II 2 cr.
Continued study of postmodern dance technique and history through
participation and academic study. Prerequisite: DANC 126 or consent of in-
structor. May be repeated for a maximum of 4 credits.
DANC 227. Tap Dance II 1 cr.
Continued study of skills and techniques of tap dance at the advanced
level. Prerequisite: DANC 127 or consent of instructor. May be repeated for
a maximum of 2 credits.
DANC 229. Flamenco II 2 cr. (1+3P)
The study of theory, techniques and practice of Flamenco at the intermedia-
tie level. Includes historical and cultural contexts of this art form. Prereq-
quisite: Dance 129.
DANC 275. Dance Studio Management 3 cr.
The study and practice of studio management. Includes study of financial procedures, marketing, entrepreneurship, leadership, management, fund-raising and other related topics. Restricted to majors and minors.

DANC 280. Improvisation I 1 cr.
Introduction and development of basic movement improvisation skills.

DANC 289. Principles of Choreography I 2 cr.
Solo dance choreography technique. Course must be passed with a grade of C or higher. Consent of instructor required. Restricted to: Main campus only. Restricted to Dance Majors Dance Minors majors.

DANC 300. Dance Pedagogy I 3 cr.
Teaching methods and class planning for dance curriculum at preschool and elementary school levels.

DANC 303. Performance and Production 1 cr.
Participation in dance performance or administrative preparation under faculty direction. May be repeated for a maximum of 4 credits. Prerequisite(s): DANC 203. Restricted to: Main campus only.

DANC 304. Dance Sport II 1-2 cr.
Advanced performance-based, team formation dance in a variety of Latin and social dances. Prerequisite: consent of instructor and one of DANC 121, DANC 122, DANC 125, or DANC 128. May be repeated for a maximum of 8 credits.

DANC 306. Dance Ensemble II 1-2 cr.
Advanced performance-based instruction for students pursuing a career in dance performance. Instruction includes dance repertoire and choreography for stage, outdoor arenas, and site-specific areas. May be repeated for a maximum of 12 credits. Consent of instructor required. Restricted to: Main campus only.

DANC 313. Dance Practicum 1 cr.
Directed learning experiences for careers in dance. Consent of instructor required. Prerequisite(s): DANC 300. Restricted to: Main campus only. Restricted to DANC majors.

DANC 322. Latin Social Dance II (Silver Level) 3 cr. (2+2P)
Intermediate level Latin dance technique, partnering work, and cultural significance through participation and academic study with emphasis on performance. Course must be passed with a grade of C or higher. Consent of instructor required. Prerequisite(s): DANC 222. Restricted to: Main campus only.

DANC 323. Ballet Technique III 3 cr.
Intermediate/advanced study of ballet technique, including vocabulary and history. Prerequisite: DANC 223 or consent of instructor. May be repeated for a maximum of 12 credits.

DANC 324. Jazz Technique III 3 cr.
Advanced study of jazz dance, including vocabulary and history. Prerequisite: DANC 224 or consent of instructor. May be repeated for a maximum of 12 credits.

DANC 325. Ballroom Dance II (Silver Level) 3 cr. (2+2P)
Intermediate level Ballroom technique, partnering work, and cultural significance through participation and academic study with emphasis on performance. Course must be passed with a grade of C or higher. Consent of instructor required. Prerequisite(s): DANC 225. Restricted to: Main campus only.

DANC 326. Modern Dance III 3 cr.
Intermediate advanced-level modern dance technique and study of current dance aesthetics. Prerequisite: DANC 226 or consent of instructor. May be repeated for a maximum of 12 credits.

DANC 329. Flamenco III 2 cr.
Advanced study in flamenco dance technique, its cultural history and pedagogy methods. Prerequisite: consent of instructor. May be repeated for a maximum of 8 credits.

DANC 380. Improvisation II 1 cr.
Continued practice in movement improvisation with more complex examination of improvisational structures. Prerequisite: DANC 280.

DANC 389. Principles of Choreography II 2 cr.
Continued investigation of the choreographic process with an emphasis on group choreography. Course must be passed with a grade of C or higher. Consent of instructor required. Prerequisite(s): DANC 289. Restricted to: Main campus only. Restricted to Dance majors Dance Minors majors.

DANC 413. Dance Practicum II 1 cr.
Directed learning experiences for careers in dance. Course must be passed with a grade of C or higher. Consent of instructor required. Prerequisite(s): DANC 466. Restricted to: Main campus only.

DANC 422. Latin Social Dance III (Gold Level) 3 cr. (2+2P)
Advanced level Latin dance technique and partnering work with choreography and performance emphasis. Includes cultural history and pedagogy methods. Course must be passed with a grade of C or higher. Consent of instructor required. Prerequisite(s): DANC 322. Restricted to: Main campus only. Restricted to DANC majors.

DANC 423. Ballet Technique IV 3 cr.
Advanced study of ballet technique including vocabulary and history. Prerequisite: DANC 323 or consent of instructor. May be repeated for a maximum of 12 credits.

DANC 424. Jazz Dance Technique IV 3 cr.
Advanced study of jazz dance techniques, including history and aesthetics. Prerequisite: DANC 324 or consent of instructor. May be repeated for a maximum of 6 credits.

DANC 425. Ballroom Dance III (Gold Level) 3 cr. (2+2P)
Advanced level Ballroom technique and partnering work with choreography and performance emphasis. Includes cultural history and pedagogy methods. Minimum grade of C required to pass course. Consent of instructor required. Prerequisite(s): DANC 325. Restricted to: Main campus only. Restricted to DANC majors.

DANC 426. Modern Dance Technique IV 3 cr.
Advanced study of modern technique, including history and aesthetics. Prerequisite: DANC 326 or consent of instructor. May be repeated for a maximum of 12 credits.

DANC 450. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: consent of instructor.

DANC 45IV. World Dance 3 cr.
Examination of dance forms from a cross-cultural perspective, focusing on the role of dance in different cultures around the globe. Same as HON 347V.

DANC 460. Dance History 3 cr.
History and development of dance forms from ancient cultures to today.

DANC 465. Senior Culminating Experience 1-6 cr.
Exit course for graduating seniors. Students will apply comprehensive knowledge of performance and production and/or pedagogy experience, to culminate in a dance production and/or teaching project. Restricted to majors and minors. A minimum of 2 credit hours required for graduation.

DANC 466. Dance Pedagogy II 3 cr.
Teaching methods and class planning for dance curriculum at middle school and high school levels. Course must be passed with a grade of C or higher. Consent of instructor required. Prerequisite(s): DANC 300 or consent of instructor. Restricted to: Main campus only.

DANC 499. Problems 1-3 cr.
Problems in dance education, dance pedagogy, dance performance and independent work in their solutions. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. Restricted to majors and minors.

DHYG - DENTAL HYGIENE/HYGIENIST

DHYG 110. Preclinical Dental Hygiene 3 cr.
Basic scientific principles and current theory, prevention of disease transmission, ethical and professional treatment of patients, clinical learning preparation, and introduction to comprehensive patient care. Offered concurrently with DHYG 112 to provide dental hygiene students with introductory knowledge, skills and attitudes to function in the clinical setting. Prerequisites: ENGL 111G, MATH 120 or OEHO 116, CHEM 210, OEHO 154, OEHO 225, OEHO 253.

DHYG 112. Preclinical Dental Hygiene Lab 3 cr. (9P)
Clinical application to basic theories and procedures used in dental hygiene practice. Techniques of instrumentation used in performing diagnostic, preventive and therapeutic services utilized when providing comprehensive patient care. Student will practice these techniques on manikins and student partners in the clinic. Prerequisite(s): ENGL 111G, MATH 120 or OEHO 116, CHEM 210, OEHO 154, OEHO 225, OEHO 253. Corequisite(s): DHYG 110, DHYG 114, DHYG 118, DHYG 119. Restricted to: Community Colleges only. Restricted to DHYG majors.

DHYG 114. Oral Histology and Embryology 2 cr.
Introduction and description of general histology and embryology with emphasis on the microscopic structures of enamel, dentin, pulp, cementum, periodontal ligament, bone, oral mucosa, epithelial attachment and development of orofacial structures. Prerequisites: ENGL 111G, MATH 120 or OEHO 116, CHEM 210, OEHO 154, OEHO 225, OEHO 253.
DHYG 116. Head, Neck, Dental Anatomy 4 cr. (SP)
Comprehensive study of the anatomy of the head and neck regions, including skeletal, nervous, circulatory, lymphatic, and muscular systems. A detailed study of nomenclature, morphologic characteristics, and physiologic relationships of human primary and permanent teeth as related to the clinical practice of dental hygiene. Laboratory activities develop observation and dexterity skills. Prerequisites: ENGL 111G, MATH 120 or OEHO 116, CHEM 210, OEHO 154, OEHO 225, OEHO 253.

DHYG 118. Dental Radiology 3 cr. (2+3P)

DHYG 120. Dental Hygiene Theory I 3 cr.
Continuation of the theoretical basis for dental hygiene clinical practice. Emphasis on emergency care, planning dental hygiene care, health promotion and disease prevention, oral rehabilitation and care of appliances, modifications of dental hygiene care throughout the lifespan, and an introduction to medically comprised patients. Prerequisites: C or above in DHYG 110, DHYG 112, DHYG 114, DHYG 116, DHYG 118.

DHYG 122. Clinical Dental Hygiene I 3 cr. (12P)
Application of dental hygiene procedures on a variety of clinical patients under direct supervision of the faculty. Emphasis on patient assessment and diagnosis, treatment procedures, appointment planning and prevention techniques. Theory is simultaneously related to practical experience. Offered concurrently with DHYG 120. Prerequisites: C or above in DHYG 110, DHYG 112, DHYG 114, DHYG 116, DHYG 118.

DHYG 124. General and Oral Pathology 3 cr.
Introduction to general pathology with focused study of diseases and disorders of the oral cavity and their interrelationship with body systems; developmental anomalies of the teeth and jaws; manifestations of disease in the oral cavity, head and neck. Prerequisites: C or above in DHYG 110, DHYG 112, DHYG 114, DHYG 116, DHYG 118.

DHYG 126. Periodontology 3 cr.
Study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, evaluation of disease, treatment modalities, and therapeutic and preventative periodontics relative to the hygienist’s role as a co-therapist in a contemporary practice setting. Prerequisites: C or above in DHYG 110, DHYG 112, DHYG 114, DHYG 116, DHYG 118.

DHYG 132. Clinical Dental Hygiene II 1 cr. (0.5-3.5P)
Continuation of clinical skills, patient assessment and diagnosis, treatment and appointment planning, preventive techniques and application of dental hygiene procedures at an intermediate level under the direct supervision of faculty. Clinical-based instruction helps students synthesize new knowledge, apply previous knowledge, and gain experience managing the workflow. Theory is simultaneously related to practical experience. Prerequisites: C or above in DHYG 120, DHYG 122, DHYG 124, DHYG 126.

DHYG 134. Dental Materials 3 cr. (2+3P)
Study of the composition, chemical and physical properties, manipulations, and uses of dental materials. Emphasis on materials and procedures for the dental hygienist is directly responsible. Laboratory experiences include application and manipulation of various materials used in dentistry. Prerequisites: C or above in DHYG 120, DHYG 122, DHYG 124, DHYG 126.

DHYG 155. Special Topics in Dental Hygiene 1-6 cr.
Study of special topics related to the practice of dental hygiene. May include educational methodology as well as applications in clinical practice, research, or community service. Consent of instructor required. Restricted to: Community Colleges only. Restricted to DHYG majors.

DHYG 210. Dental Hygiene Theory III 2 cr.
Advanced theory of dental hygiene and information on periodontal therapies relative to the hygienist’s role as a co-therapist in clinical practice. Continuation of the study of dental hygiene care for medically comprised patients and an introduction to special needs patients. Restricted to DHYG majors. Offered concurrently with DHYG 212. Corequisites: DHYG 212, DHYG 214, DHYG 216, DHYG 218. Prerequisites: C or above in DHYG 132, DHYG 134, and SOC 101 (or equivalent).

DHYG 212. Clinical Dental Hygiene III 4 cr. (16P)
Continuation of clinical skills, patient assessment and diagnosis, treatment and appointment planning, preventive techniques and applications of dental hygiene procedures at the intermediate to competent level under supervision of faculty. Emphasis on dental hygiene treatment for the medically compromised and periodontally involved patients. Theory is simultaneously related to practical experience. Offered concurrently with DHYG 212. Restricted to DHYG majors. Corequisites: DHYG 210, DHYG 214, DHYG 216, DHYG 218. Prerequisite: C or above in DHYG 132, DHYG 134, and SOC 101 (or equivalent).

DHYG 214. Dental Pharmacology 3 cr.
Study of the pharmacologic aspects of drugs and drug groups with which the dentist and dental hygienist are directly and indirectly concerned. Emphasis is placed on nomenclature, origin, physical and chemical properties, preparation, modes of administration and effects of drugs upon the body systems. Restricted to DHYG majors. Corequisites: DHYG 210, DHYG 212, DHYG 216, DHYG 218. Prerequisites: C or above in DHYG 132 and DHYG 134.

DHYG 216. Dental Public Health Education 3 cr.
Study of principles and concepts of community public health and dental health education. Emphasis on dental epidemiology and statistical methods, community assessment, educational planning, implementation, and evaluation, scientific review of literature, and classroom presentation. Restricted to DHYG majors. Corequisites: DHYG 210, DHYG 212, DHYG 214, DHYG 218. Prerequisites: C or above in DHYG 132 and DHYG 134.

DHYG 220. Dental Hygiene Theory IV 3 cr.
Theoretical preparation for advanced clinical practice. In-depth study of dental hygiene care for patients with special needs. Case Study presentations and a Board Review are utilized to demonstrate the synthesis of comprehensive dental hygiene knowledge, skills and attitudes. The most current dental and dental hygiene technology will be reviewed as it related to clinical practice. Prerequisite(s): ‘C’ or above in DHYG 210, DHYG 212, DHYG 214, DHYG 216, and DHYG 218. Corequisite(s): DHYG 222, DHYG 224, DHYG 226. Restricted to: Community Colleges only. Restricted to DHYG majors.

DHYG 222. Clinical Dental Hygiene IV 4 cr. (16P)
Clinical sessions combine basic and advanced dental hygiene skills with time management techniques essential for private practice. Comprehensive patient care to include assessment, dental hygiene diagnosis, treatment planning, implementation and evaluation of dental care, nonsurgical periodontal therapy, adjunct clinical procedures, ultrasonic instrumentation, patient management, sealants, and comprehensive programs for control of oral diseases will be emphasized. Theory is simultaneously related to practical experience. Students are encouraged to develop independent decision-making with minimal faculty supervision. Prerequisite(s): ‘C’ or above in DHYG 210, DHYG 212, DHYG 214, DHYG 216, and DHYG 218. Corequisite(s): DHYG 220, DHYG 224, DHYG 226. Restricted to: All Community Colleges. Restricted to DHYG majors.

DHYG 224. Principles of Practice 2 cr.
Examination of the dental hygienist’s role in both traditional and non-traditional employment settings. Career planning, resume preparation and interviewing are practices. An understanding of the law, professional ethics of dental hygiene and the need for lifelong learning are emphasized. Future roles of the dental hygienist and emerging issues in dental hygiene will be explored. Prerequisite(s): ‘C’ or above in DHYG 210, DHYG 212, DHYG 214, DHYG 216, and DHYG 218. Corequisite(s): DHYG 220, DHYG 222, DHYG 226. Restricted to: All Community Colleges. Restricted to DHYG majors.

DHYG 226. Community Oral Health 2 cr. (1-3P)
Students assess, plan, implement, and evaluate a community oral health project. Dental specialties and the dental hygienist’s role in referrals and in interdisciplinary patient care are presented. Students participate in a variety of community health projects and practice and observe in dental specialty practices. Prerequisite(s): ‘C’ or above in DHYG 210, DHYG 212, DHYG 214, DHYG 216, and DHYG 218. Corequisite(s): DHYG 220, DHYG 222, DHYG 224. Restricted to: Community Colleges only. Restricted to DHYG majors.
DHYG 298. Independent Study in Dental Hygiene 1-9 cr.

DRFT 105. Technical Drawing for Industry 3 cr. (2+2P)
Technical sketching, basic CAD, and interpretation of drawings with visualization, speed and accuracy highly emphasized. Areas of focus include various trades such as machine parts, welding, heating and cooling, and general building sketches/plan interpretation.

DRFT 108. Drafting Concepts/Descriptive Geometry 2 cr. (1+2P)
Basic manual drafting skills, terminology and visualization. Graphical solutions utilizing applied concepts of space, planar, linear and point analyses. Metric and S.I. units introduced.

DRFT 109. Computer Drafting Fundamentals 3 cr. (2+2P)
Introduction to computer-aided drafting. Principles and fundamentals of drafting using the latest version of AutoCAD software. Same as E C 109, E T 109, SUR 109.

DRFT 110. Introduction to Drafting 6 cr. (4+4P)
Fundamentals of manual and computer-aided drafting.

DRFT 111. Drafting Concepts/Computer Drafting Fundamentals I 4 cr. (2+4P)
Basic drafting skills, terminology, and visualization. Introduction to principles and fundamentals of computer-aided drafting. Prerequisites: DECS 207, DECS 125 or consent of instructor. Same as E T 108.

DRFT 112. Drafting Concepts/Computer Drafting Fundamentals II 4 cr. (2+4P)
Drafting for mechanical/industrial applications; machine part detailing, assemblies in orthographic, isometric, auxiliary, oblique, and sectional views. Two-dimensional AutoCAD with introduction to 3-D AutoCAD. Prerequisite: DRFT 112. Same as E T 216. Community Colleges only.

DRFT 113. Drafting Concepts/Computer Drafting Fundamentals III 4 cr. (2+4P)
Introduction to mechanical drafting/solid modeling. Students will learn 3-D visualization, mechanical drafting, and dimensioning skills as solid modeling skills are developed. Working drawings, assembly models, and assembly drawings will be introduced. May be repeated for a maximum of 6 credits. Corequisite: DRFT 108.

DRFT 115. General Construction Safety 3 cr. (2+2P)
Overview of general construction safety related to building construction, highway and road construction, and surveying field work.

DRFT 118. Geometry for Drafting 3 cr.
Analysis and problem solving of related technical problems using measuring instruments and techniques with geometry and trigonometry. Prerequisite: CCDM 103N or CCDM 104N.

DRFT 123. Introduction to Civil/Architectural Technology 4 cr. (2+4P)
Introduction to beginning civil/architecture drafting and its applications. Drawings, projects and terminologies are related to both fields of civil engineering and architectural technology. Prerequisite(s): NONE. Restricted to All Community Colleges.

DRFT 130. General Building Codes 3 cr. (2+2P)
Interpretation of the Building Code, local zoning codes, A.D.A. Standards and the Model Energy Code to study construction and design requirements and perform basic plan checking. Restricted to Community College campuses only.

DRFT 135. Electronics Drafting I 3 cr. (2+2P)
Drafting as it relates to device symbols; wiring, cabling, harness diagrams and assembly drawings; integrated circuits and printed circuit boards; schematic, flow and logic diagrams; industrial controls and electric power fields. Drawings produced using various CAD software packages. Prerequisites: DRFT 108 and DRFT 109.

DRFT 143. Civil Drafting Fundamentals 3 cr. (2+2P)
Introduction to drafting in the field of surveying and civil engineering. Drawings, projects, and terminologies related to topographic surveys/mapping, contour drawings, plan and profiles, improvement plats and street/highway layout. Prerequisite: DRFT 109. Same as E T 145 and SUR 143.

DRFT 152. Survey Drafting Applications 3 cr. (2+2P)
Emphasis on drafting in the field of surveying engineering. Included are drawings, projects, terminologies related to land/boundary, topographic, improvement plat surveys and legal descriptions; data production and retrieval using CADD applications; and researching and submittal process methods of survey documents with municipal and county agencies. Same as SUR 143. Prerequisites: DRFT 108.

DRFT 160. Construction Take-Offs and Estimating 3 cr. (2+2P)
Computing and compiling materials and labor estimates from working drawings using various techniques common in general building construction and in accordance with standard specifications and estimating formats. Use of spreadsheets and estimating software introduced. Prerequisite: DRFT 151.

DRFT 164. Intermediate Mechanical Drafting/Solid Modeling 3 cr. (2+2P)
Students will learn advanced solid modeling techniques. Use of different file types and compatibility issues between different software packages will be studied. Drawing organization and presentation methods will be practiced. Projects requiring precision field measurements and sketches, as well as teamwork, will be assigned. Geometric Dimensioning and Tolerancing will be introduced. May be repeated for a maximum of 6 credits. Prerequisite: DRFT 114.

DRFT 173. Civil Drafting Applications 3 cr. (2+2P)
Emphasis on drafting in the field of civil engineering. Includes drawings, projects and terminologies related to construction plan set setup, contour drawing, profiles, street and highway layout according to municipal and county agency standards. Same as E T 143. Prerequisite: DRFT 108.

DRFT 176. Computer Drafting in 3-D 3 cr. (2+2P)
Computer drafting in three dimensions including wire frame, surface modeling, and solids modeling. Computer generated rendering with surface material applications and ray traced shadows will be introduced. Prerequisites: DRFT 108 and DRFT 109.

DRFT 177. Computer Rendering and Animation I 3 cr. (2+2P)
Introduction to technical applications of computer generated renderings and animations for the architecture and engineering fields. 3D models, photo-realistic renderings, and basic animation movie files will be produced utilizing Autodesk VIZ and Google SketchUp software. May be repeated for a maximum of 6 credits. Prerequisite: DRFT 109.

DRFT 190. Finding and Maintaining Employment 2 cr.
Techniques in self-evaluations, resume writing, application completion, job interviewing, and job retention. Exposure to work ethics, employee attitudes, and employer expectations.

DRFT 204. Geographical Information Systems Technology 3 cr. (2+2P)
Introduction to GIS and related data collecting and mapping techniques. National standards emphasized utilizing computer and web-based systems and peripherals. Prerequisite: DRFT 102.

DRFT 214. Advanced Mechanical Drafting/Solid Modeling 3 cr. (2+2P)
Advanced mechanical drafting/solid modeling techniques and topics will be studied using the student’s software(s) of choice. Students will use any of the 3-D solid modeling software packages that are available on campus as they develop these skills, as well as develop a thorough working knowledge of the use of GDT in Mechanical Drafting/3D Modeling. Detailed class projects will be assigned, and presentations will be required. May be repeated for a maximum of 6 credits. Prerequisite: DRFT 114 or DRFT 176.

DRFT 218. Mathematics for Civil/Surveying 3 cr.
Practical problem solving in areas related to civil and surveying fields, including earthwork calculation, heavy construction material take-offs, and surveying data interpretation. Prerequisite: DRFT 118.

DRFT 222. Surveying Fundamentals 3 cr. (2+2P)
Elementary surveying and civil drafting theory and techniques for non engineering majors. Includes traverse plotting, site plans, mapping, cross sections, and development of plan and profile drawings. Actual basic field measurement/surveying as well as extensive manual and CAD projects will be assigned. Prerequisites: DRFT 108, DRFT 109, and DRFT 118 or MATH 180.

DRFT 230. Building Systems Drafting 3 cr. (2+2P)
Development of drawings for electrical, plumbing, and HVAC systems, for residential and commercial building. Use of related CAD software. Prerequisite: DRFT 180.

DRFT 235. Electronics Drafting II 3 cr. (2+2P)
Continuation of DRFT 135. Expansion techniques in electronic drafting as it applies to schematic capture, logic diagrams, electronic equipment racks, and printed circuit board documentation. Basic logic simulation, 3-D electronic assemblies and artwork generation for PCB fabrication using various software packages. Prerequisite: DRFT 135.
DRFT 242. Roadway Development Drafting 3 cr. (2+2P)
Advanced civil/survey technology and drafting related to roadway development. Emphasis is on relevant terminology, codes/standards, and the production of complex working drawings such as subdivision plats, local utility and drainage plans, construction details, roadway P P, etc., according to agency standards. Prerequisites: DRFT 143 and DRFT 153.

DRFT 243. Land Development Drafting 3 cr. (2+2P)
Advanced civil/survey technology and drafting related to land development. Emphasis is on relevant terminology codes/standards, and the production of complex working drawings such as subdivision plats, local utility and drainage plans, construction details, roadway P P, etc., according to local development/agency standards. Prerequisite: DRFT 143.

DRFT 252. Global Positioning Systems Technology 3 cr. (2+2P)
Introduction to Geographical Information Systems (GIS) and related data collecting and mapping techniques. National standards emphasized utilizing computer and Web-based systems and peripherals. Prerequisite: DRFT 143.

DRFT 274. Advanced Geographical Information Systems 3 cr. (2+2P)
Continuation of GIS I, using more advanced techniques. Focus on spatial data processing, spatial analysis, and alternative GIS software. Class will be project driven. Prerequisite: DRFT 270.

DRFT 275. Independent Study 1-3 cr.
Instructor-approved projects in drafting or related topics specific to the student's individual areas of interest and relevant to the drafting and graphics technology curriculum. Consent of instructor required. May be repeated for a maximum of 6 credits.

DRFT 270. Architectural Sketching and Rendering 3 cr. (2+2P)
Use of freehand sketching, shading and shadowing techniques, 3-D models, and 1-point and 2-point perspectives in the development of architectural presentation drawings. Prerequisite: DRFT 108.

DRFT 276. Computer Rendering and Animation I 3 cr. (2+2P)
Introduction to technical applications of computer generated renderings and animations for the architecture and engineering fields. 3D models, photo-realistic renderings, and basic animation movie files will be produced utilizing industry standard modeling and animation software.

DRFT 277. Computer Rendering and Animation II 3 cr. (2+2P)
Continuation of DRFT 276. Covers advanced modeling and animation techniques using 3-D animation software. Prerequisite: DRFT 276.

DRFT 278. Advanced CAD Applications 3 cr. (2+2P)
Introduction to advanced Autodesk AutoCAD applications, usage techniques, user customization, and basic AutoLisp programming. Techniques for interfacing AutoCAD drawings into other software packages and presentations will be explored. Internet based research of alternative CAD software packages and solutions will be performed. Prerequisite: DRFT 109.

DRFT 288. Portfolio Development 4 cr. (2+4P)
Production of a portfolio consisting of student produced work related to individualized projects based on degree option. Completed portfolio to include, working and presentation drawings, material take-offs, cost estimates, specifications, 3D models, renderings, and technical animation files as assigned by the instructor. Job search and resume preparation activities will also be required. Consent of instructor required.

DRFT 290. Special Topics 1-4 cr.
Topics subtitled in the Schedule of Classes. May be repeated for a maximum of 12 credits.

DRFT 291. Cooperative Experience 1-6 cr.
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student meets with advisor weekly. Prerequisite: consent of instructor. Graded S/U.

DRFT 295. Professional Development and Leadership DAGA 1-3 cr.
As members and/or officers of student professional organizations, drafting and graphics students gain experience in leadership, team building, and community services. May be repeated for a maximum of 6 credits.

This class provides Integrated Learning Community students with an introduction to various aspects of engineering.

Introduction to the basic science and engineering concepts of everyday devices. For nonmajors only.

E E 161. Computer Aided Problem Solving 4 cr. (3+3P)
Introduction to scientific programming. Extensive practice in writing programs to solve engineering problems. Items covered will include: loops, input and output, functions, decision statements, and pointers. Prerequisite(s): MATH 190G.

E E 162. Digital Circuit Design 4 cr. (3+3P)
Design of combinational logic circuits based on Boolean algebra. Introduction to state machine design. Implementation of digital projects with hardware description language. Prerequisite(s): C or better in E E 161 and MATH 190G. Restricted to: Main campus only.

E E 201. Networks I 3 cr.
Electric component descriptions and equations. Kirchhoff's voltage and current laws, formulation and solution of RLC network equations using time domain concepts. For nonmajors only. Prerequisite(s): C or better in MATH 192G. Minimum 2.0 GPA.

E E 210. Engineering Analysis I 4 cr. (3+3P)
The application of linear algebra and matrices, probability, random variables and random processes to solve problems in electrical engineering. Applications to be covered include probabilistic modeling of electrical/electronic systems and an introduction to Mat lab. Prerequisite(s): C or better in EE 161 and MATH 192G. Restricted to: Main campus only.

E E 260. Embedded Systems 4 cr. (3+3P)
Applications of microcontrollers, FPGAs, interfaces and sensors. Introduction to Assembly language programming. Prerequisite(s): C or better in E E 162.

E E 280. DC and AC Circuits 4 cr. (3+3P)
Electric component descriptions and equations. Kirchhoff's voltage and current laws, formulation and solution of network equations in the time and frequency domain. Applications of circuit analysis to ideal op amps. Complete solutions of RLC and switching networks. Mutual coupling. Prerequisite(s): C or better in MATH 192G and PHYS 216G.

E E 310. Engineering Analysis II 3 cr.
Calculus of vector functions through electrostatic applications. Techniques for finding resistance and capacitance. Coulomb's law, gradient, Gause's divergence theorem, curl, Stokes' theorem, and Green's theorem. Application of complex algebra and matrix lab. Prerequisite(s): C or better in E E 210 and MATH 210G.

E E 312. Signals and Systems I 3 cr.
Continuous- and discrete-time signals and systems. Time- and frequency-characterization of signals and systems. Transform-domain methods including Fourier-, Laplace-, and z-transforms. Prerequisite(s): C or better in EE 210, EE 280, and Math 392.

E E 314. Signals and Systems II 4 cr. (3+3P)
Introduction to communication systems including amplitude-, frequency-, and pulse-amplitude modulation. Introduction to control systems including linear feedback systems, root-locus analysis, Nyquist criterion. Introduction to digital signal processing including sampling, digital filtering, and spectral analysis. Prerequisite(s): C or better in EE 312.


E E 351. Applied Electromagnetics 4 cr. (3+3P)
Static electric and magnetic fields. Maxwell's equations, static and time-varying electromagnetic fields, generalized plane wave propagation and microwave transmission line theory and applications. Prerequisite(s): C or better in E E 310 and EE 280.

E E 363. Computer Systems Architecture I 4 cr. (3+3P)
Concepts of modern computer architecture. Processor micro-architectures, hardwired vs. micro-programmed control, pipelining and pipeline hazards, memory hierarchies, bus-based system architecture and memory mapping, hardware-software interface, and operating system concepts. Prerequisite(s): C or better in C S 212 or E E 280.

E E 370. Geometrical Optics 4 cr. (3+3P)
Reflection, refraction, lenses, prisms, ray tracing, stops and pupils, image formation, first order lens design, aberrations, and optical instrumentation. Prerequisite(s): MATH 191G. Crosslisted with: PHYS 370.

E E 380. Electronics I 4 cr. (3+3P)
Analysis and design of single-time-constant circuits, opamp applications, diode circuits, linear power supplies, and single-transistor MOS and BJT amplifiers. Introduction to solid-state devices and digital CMOS circuits. Prerequisite(s): C or better in E E 162, E E 280, and CHEM 111G.
E E 410. Systems Engineering and Program Management 3 cr.
Introduction to the principles, concepts, and analysis of the major components of an electric power system. Basic electromechanics, energy conversion and source conversion, transformers, transmission lines, rectifiers, regulators, and system analysis. Prerequisite(s): C or better in E E 280.

E E 395. Introduction to Digital Signal Processing 3 cr.
Undergraduate treatment of sampling/reconstruction, quantization, discrete-time systems, digital filtering, Z-transforms, transfer functions, digital filter realizations, discrete Fourier transform (DFT) and fast Fourier transform (FFT), finite impulse response (FIR) and infinite impulse response (IIR) filter design, and digital signal processing (DSP) applications. Prerequisite: C or better in E E 314.

E E 400. Undergraduate Research 1-3 cr.
Directed undergraduate research. May be repeated for a maximum of 9 credits. Prerequisite: consent of the department head.

E E 410. Systems Engineering and Program Management 3 cr.
Modern technical management of complex systems using satellites as models. Team projects demonstrate systems engineering disciplines required to configure satellite components. Prerequisite(s): Junior standing.

E E 418. Capstone Design I 1-6 cr.
Application of engineering principles to a significant design project. Includes teamwork, written and oral communications, and realistic technical, economic, and public safety requirements. Consent of instructor required. Prerequisite(s): C or better in E E 260, EE 314, EE 351, E E 380, and E E 391. Pre/Corequisite(s): EE 410.

E E 419. Capstone Design II 1-6 cr.
Realization of a design project from E E 418 within time and budget constraints. Consent of instructor required. Prerequisite(s): C or better in E E 260, E E 314, E E 351, E E 380, and E E 391 OR C or better in E E 418. Pre/ Corequisite(s): EE 410.

E E 430. Environmental Management Seminar II 1 cr.
Survey of practical and new developments in hazardous and radioactive waste management provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: C E 430, CH E 430, E T 430, I 4 430 and WERC 430.

E E 431. Power Systems II 3 cr.
Analysis of a power system in the steady-state. Includes the development of models and analysis procedures for major power system components and for power networks. Prerequisites: C or better in E E 391.

E E 432. Power Electronics 3 cr. (2-3P)
Basic principles of power electronics and its applications to power supplies, electric machine control, and power systems. Prerequisites: C or better in E E 380 and E E 391. Corequisites: EE 431 and EE 341.

Project-oriented course covering the fundamentals of real-time digital signal processing (DSP) by programming a state-of-the-art digital processor to solve a variety of problems in digital audio and communications engineering. Prerequisite: C or better in E E 395.

E E 452. Introduction to Radar 3 cr.
Basic concepts of radar. Radar equation; detection theory, AM, FM, and CW radars. Analysis of tracking, search, MTI, and imaging radar. Taught with E E 548. Restricted to undergraduate students. Prerequisite(s): C or better in E E 302 and E E 351. Pre/Corequisite(s): E E 496. Restricted to: Main campus only.

E E 452. Microwave Engineering 3 cr.
Techniques for microwave measurements and communication system design, including transmissions lines, waveguides, and components. Microwave network analysis and active device design. Taught with E E 521. Restricted to undergraduate students. Prerequisite(s): C or better in E E 351. Restricted to: Main campus only.

E E 454. Antennas and Radiation 3 cr.
Basic antenna analysis and design. Fundamental antenna concepts and radiation integrals. Study of wire antennas, aperture antennas, arrays, reflectors, and broadband antennas. Taught with E E 541. Restricted to undergraduate students. Prerequisite(s): C or better in E E 351. Restricted to: Main campus only.

E E 460. Space System Mission Design and Analysis 3 cr.
Satellite system design, including development, fabrication, launch, and operations. A systems engineering approach to concepts, methodologies, models, and tools for space systems. Prerequisite: Junior standing.

Comparison of architectures to illustrate concepts of computer organization; relationships between architectural and software features. Restricted to undergraduate students. Prerequisite(s): C or better in E E 261 and E E 363. Restricted to: Main campus only.

E E 469. Digital Communications Networks 3 cr.
Simulation-based design of data/computer communication networks. Design of wide area, local area, and computer networks and protocols. Network performance. Projects require use of network simulation tools in comprehensive network design. Prerequisite: C or better in E E 361.

E E 470. Physical Optics 3 cr.
Interference and diffraction, spectroscopic instrumentation, coherence, laser and Gaussian laser beam, and elements of nonlinear optics and fiber optics. Prerequisite: E E 370, and PHYS 214, PHYS 216G, or PHYS 217. Same as PHYS 470.

E E 471. Modern Experimental Optics 2 cr. (6P)
Advanced laboratory experiments in optics related to the material presented in E E 470. Pre/Corequisite(s): E E 470. Crosslisted with: PHYS 471.

E E 475. Control Systems II 3 cr.
Design and synthesis of control systems using state variable and frequency domain techniques. Compensation, optimization, multi-variable system design techniques. Prerequisite: C or better in E E 314.

Representation, analysis and design of discrete-time systems using time-domain and z-domain techniques. Microprocessor control systems. Prerequisite: C or better in E E 314.

E E 477. Fiber Optic Communication Systems 4 cr. (3-3P)
Fundamental characteristics of individual elements (transmitters, detectors, and fibers) of fiber optic communication systems. Design and characterization of high-speed, multichannel fiber optic communication links. Introduction to fiber optic distribution networks and components. Taught with E E 527/PHYS 527. Restricted to undergraduate students. Prerequisite(s): C or better in E E 351 or PHYS 461. Restricted to: Main campus only. Crosslisted with: PHYS 477.

E E 478. Optical Sources, Detectors and Radiometry 4 cr. (3-3P)
Fundamentals of optical sources, detectors, and radiometric measurements in the visible and infrared. Radiometry of imaging and nonimaging optical systems, including optical fibers. Detector preamplifiers, noise, NEP, D, optical filters, and sensor system design. Laboratory included. Taught with E E 528/PHYS 528. Restricted to undergraduate students. Corequisite(s): An undergraduate optics course. Restricted to: Main campus only. Crosslisted with: PHYS 478.

E E 479. Lasers and Applications 4 cr. (3-3P)
Lasers, their construction, operating principles, characteristics, and applications with hands-on experience. Beam propagation in optical fibers. Laboratory included. Taught with E E 529/PHYS 529. Restricted to undergraduate students. Prerequisite(s): C or better in E E 351 or in PHYS 461. Restricted to: Main campus only. Crosslisted with: PHYS 479.

E E 480. Introduction to VLSI 4 cr. (3-3P)
Introduction to analog and digital VLSI circuits implemented in CMOS technology. Design of differential amplifiers, opamps, CMOS logic, flipflops, and adders. Introduction to VLSI fabrication process and CAD tools. Prerequisite(s): C or better in E E 260 and E E 380.

E E 481. Modern Experimental Options 2 cr.
Same as PHYS 471.

E E 482. Electronics II 3 cr.
Feedback analysis, application of operational amplifiers, introduction to data converters, analog filters, oscillator circuits. Prerequisite: C or better in E E 161 and E E 380.

E E 483. RF Microelectronics 3 cr.
Analysis, design and implementation of RF integrated circuits in CMOS/BJT technologies. Low noise amplifiers and mixers, power amplifiers, wideband amplifiers, oscillators, phase-locked frequency synthesizers. Taught with E E 519. Restricted to undergraduate students. Prerequisite(s): C or better in E E 481 and E E 351. Restricted to: Main campus only.

E E 485. Analog VLSI Design 3 cr. (3-3P)
Analysis, design, simulation, layout and verification of CMOS analog building blocks, including references opamps, switches and comparators. Teams implement a complex analog IC. Taught with E E 523. Restricted to undergraduate students. Prerequisite(s): C or better in E E 312 and E E 480. Restricted to: Main campus only.
E 486. Digital VLSI Design 3 cr. (3+3P)
Static and dynamic logic techniques, memory circuit, data path operators. Teams implement a complex CMOS digital block using industrial VLSI CAD tools. Taught with E E 524. Restricted to undergraduate students. Prerequisite(s): C or better in E E 480 and E E 361. Restricted to: Main campus only.

E 490. Selected Topics 1-3 cr.
Prerequisite: consent of instructor. May be repeated for a maximum of 9 credits. Graduate students may not use credits of E E 490 toward an M.S. or Ph.D. in electrical engineering.

E 493. Power Systems III 3 cr.
Analysis of a power system under abnormal operating conditions. Topics include symmetrical three-phase faults, theory of symmetrical components, unsymmetrical faults, system protection, and power system stability. Taught with E E 543. Restricted to undergraduate students. Prerequisite(s): C or better in E E 332. Pre/Corequisite(s): E E 431. Restricted to: Main campus only.

E 494. Distribution Systems 3 cr.
Concepts and techniques associated with the design and operation of electrical distribution systems. Taught with E E 544. Restricted to undergraduate students. Prerequisite(s): C or better in E E 431. Pre/Corequisite(s): E E 493. Restricted to: Main campus only.

E 496. Introduction to Communication Systems I 4 cr. (3+3P)
Introduction to the analysis of signals in the frequency and time domains. A study of baseband digital transmission systems and digital/analog RF transmission systems. Introduction to telecommunication systems as well as satellite systems. Prerequisites: C or better in E E 311 and MATH 392.

E 497. Introduction to Communication Systems II 3 cr.
Continuation of E E 496. Introduction to probability theory and the analysis of the performance of digital bandpass signaling methods. Prerequisite: C or better in E E 496 and STAT 371 or E E 302.

E 498. Capstone Design I 1-6 cr.
Application of engineering principles to a significant design project. Includes teamwork, written and oral communications, and realistic technical, economic, and public safety requirements. Required preparation is E E 111, E E 161, E E 211, E E 261, E E 311, E E 315, E E 321, E E 332, and E E 341, or equivalent classes. Consent of instructor required. Restricted to: Main campus only.

E S - ENVIRONMENTAL SCIENCE

E S 100. Introduction to Environmental Science 3 cr.
Introduction to Environmental Science as related to the protection, remediation, and sustainability of land, air, water, and food resources. Emphasis on the use of the scientific method and critical thinking skills in understanding environmental issues. This class is offered for distance education students only.

E S 110G. Introductory Environmental Science 4 cr. (3+1P)
Introduction to environmental science as related to the protection, remediation, and sustainability of land, air, water, and food resources. Emphasis on the use of the scientific method and critical thinking skills in understanding environmental issues.

E S 111. Freshman Orientation 1 cr.
Orientation to university life, including available resources and methods to promote success at NMSU. General exposure to fields in agriculture and home economics. Open to all freshmen and transfer students. Graded: S/U. Restricted to: Main campus only.

E S 256. Environmental Science 3 cr.
Principles in environmental engineering and science: physical chemical systems and biological processes as applied to pollution control. Prerequisite(s): C E 151, CHEM 111G or CHEM 114 and MATH 191G. Same as C E 256. Restricted to: Main campus, Alamogordo campus, Carlsbad campus, Grants campus. Crosslisted with: C E 256.

E S 256 L. Environmental Science Laboratory 1 cr.
Laboratory experiments associated with the material presented in E S 256. Corequisite(s): E S 256. Same as C E 256L.

E S 300. Special Topics 1-4 cr.
Special subjects and credits to be announced in the Schedule of Classes. Prerequisite: consent of instructor. Maximum of 4 credits per semester. Restricted to majors.

E S 370. Environmental Soil Science 3 cr.
A study of baseband digital transmission systems and digital/analog RF transmission systems. Introduction to communication systems as well as satellite systems. Prerequisites: C or better in E E 311 and MATH 392.

E S 371. Environmental Health 3 cr.
Introduction to environmental health designed to address public health issues. Same as HMS 453. Prerequisite: Junior or senior standing.

E S 380. Ecology of Inland Waters 3 cr.
Functions of plant and animal communities in aquatic ecosystems; emphasis on regulation of community structure and productivity. Field trips required. Prerequisites: CHEM 112G, BIOL 301, and MATH 142G. Same as WIL 458.

E S 387. Environmental Management Seminar I 1 cr.

E S 391. Internship 1-3 cr.
Professional work experience under the joint supervision of the employer and a faculty member. A written report is required. Maximum of 3 credits toward a degree. Restricted to majors. Graded S/U.

E S 422. Environmental Chemistry 3 cr.
Chemistry of organic and metal ion pollutants in the environment and principles important to their remediation including bioremediation. Prerequisite(s): CHEM 112G and either CHEM 211 or CHEM 313. Restricted to: Main campus only. Crosslisted with: CHEM 422.

E S 430. Environmental Management Seminar II 1 cr.
Survey of practical and new developments in environmental management field, hazardous and radioactive, waste management, and related health issues, provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: C E 430, C H E 430, E E 430, E T 430, I E 430 and W E R 430.

E S 449. Special Problems 1-3 cr.
Research problem, experience training, or other special study approved by a faculty adviser. Maximum of 3 credits per semester and 6 credits toward a degree. Restricted to majors.

E S 450. Epidemiology 3 cr.
Epidemiological approaches to disease prevention and control. Factors influencing health status. Crosslisted with: H L S 450.

E S 452. Geohydrology 3 cr.
Origin, occurrence, and movement of fluids in porous media and assessment of aquifer characteristics. Development and conservation of ground water resources, design of well fields. Prerequisites: GEOL 111G and C E 231. Same as G E N /GEOL 452.

E S 454. Environmental Health 3 cr.
Introduction to environmental health designed to address public health issues. Same as H L S 452. Prerequisite: Junior or senior standing.

E S 455. Occupational Health 3 cr.
Identification, control, and prevention of occupational diseases and injuries. Same as H L S 453. Prerequisite: Junior or senior standing.

E S 458. Ecology of Inland Waters 3 cr.
Functions of plant and animal communities in aquatic ecosystems; emphasis on regulation of community structure and productivity. Field trips required. Prerequisites: CHEM 112G, BIOL 301, and MATH 142G. Same as W L S 458.

E S 462. Sampling and Analysis of Environmental Contaminants 3 cr. (1+2P)
Theory, application, methodology, and instrumentation used in the sampling and analysis of environmental contaminants. Prerequisites: E S 256. Same as ENVE 462.

E S 470. Environmental Impacts of Land Use 3 cr.
Capstone course for the environmental science major. Case studies of environmental problems impacting land. Prerequisites: E S 256, E S 462, E S 370.
E T - ENGINEERING TECHNOLOGY

E T 100. Introduction to Problem Solving 3 cr.
Practical application of arithmetic calculations and equations, units and dimensions, as well as graphical methods to problems encountered in technology.

E T 101. Introduction to Engineering Technology 1 cr.
The development of engineering technology, with an introduction to engineering technology, education, and practice. Graded S/U.

E T 104. Soldering Techniques 1 cr. (2P)
Fundamentals of soldering, desoldering, and quality inspection of printed circuit boards.

E T 106. Drafting Concepts/Computer Drafting Fundamentals I 4 cr. (2+2P)
Basic drafting skills, terminology, and visualization. Introduction to principles and fundamentals of computer-aided drafting. Prerequisite: DECS 125, DECS 207, or consent of instructor. Community Colleges only. Same as DRFT 112.

E T 107. Introduction to Materials Management 3 cr.
The basics of production and inventory control, with overviews of forecasting, purchasing, physical inventory, inventory and warehouse management, and the elements of distribution including transportation, packaging and materials handling. Community Colleges only.

E T 109. Computer Drafting Fundamentals 3 cr. (3+2P)
Crosslisted with: DRFT 109, C E 109 and SUR 109

E T 110. Introduction to Computer-Aided Drafting and Design 3 cr.
Introduction to computer-aided drafting and design using 3-D solid modeling software.

E T 115. Introduction to Environmental Technology 3 cr.
Provides an introduction to the fields of environmental science and environmental engineering. Includes engineering aspects of current environmental issues and the effects of pollution on local, state, national and worldwide scales. Required for all advanced hazardous materials courses. Corequisites: either MATH 120 or high school chemistry, or CHEM 110G. Carlsbad Community College campus only.

E T 116. Industrial Processes 2 cr. (1+2P)
Manufacturing processes with projects in welding, foundry, and sheet metal. Corequisites: E T 106 and MATH 120.

E T 120. Computation and Presentation Software 3 cr.
The use of database, spreadsheet, and presentation software in the field of engineering technology. Introduction to Internet resources and construction of homepages.

E T 121. Applied Radiation Technology 3 cr. (1+2P)
Introduction to atomic and nuclear structure, radioactivity, radiation effects, and detection and measurement techniques. Required for all advanced radioactive materials courses. Prerequisite: MATH 120. Corequisite: PHYS 211G.

E T 122. Fundamentals of Computer Applications 3 cr. (2+2P)
Introduction to computer technology including computer hardware and software principles. Topics include the historical development of computers, basic computer architecture, use of computer hardware devices, and the introduction of several application software packages. Community Colleges only.

E T 123. Computer Support Center Principles 3 cr.
Introduction to computer support center management and operation fundamentals. Topics include defining the role of a computer support center, inventory management, documenting repair databases, providing user training, developing interpersonal skills, copyright laws, and software licensing issues. Community Colleges only.

E T 125. Introduction to Renewable Energy 3 cr.
Renewable energy systems, including topics in thermal-solar photovoltaic, wind, geothermal systems, and other current topics. Theory, practical applications, safety considerations and the economics of alternative renewable energy systems compared to conventional systems.

Solar energy technologies, including topics in passive, solar thermal and photovoltaic systems. Theory, practical applications, safety considerations and the economics of solar renewable energy systems compared to conventional systems.

E T 132. Fundamentals of Computer Applications 3 cr. (2+2P)
Introduction to computer technology including computer hardware and software principles. Topics include the historical development of computers, basic computer architecture, use of computer hardware devices, and the introduction of several application software packages. Community Colleges only.

E T 133. Solar Energy Principles 3 cr.
Introduction to solar energy technology, including topics in solar thermal and photovoltaic systems. Theory, practical applications, safety considerations and the economics of solar renewable energy systems compared to conventional systems.

E T 135. Network Operating Systems I 3 cr. (3+1P)
Introduction to a computer network operating system. Prerequisite: E T 120. Community Colleges only.

E T 140. Introduction to Computer Networks 3 cr.
Introduction to basic computer network fundamentals including International Open Systems Interconnect (OSI), the seven-layer model, and various networking hardware devices. Community Colleges only.

E T 154. Construction Methods and Communications 3 cr.
Blueprint reading, specifications, and introduction to materials used in construction.

E T 156. Network Operating Systems I 3 cr. (3+1P)
Introduction to a computer network operating system. Prerequisite: E T 120. Community Colleges only.

E T 160. Basic Computer Operating Systems 3 cr.
Basics of the most commonly used computer operating systems, command line interface, file systems, file manipulations, remote login, etc. Introduction to computer programming operations.

E T 180. Survey of Electronics 3 cr. (3+1P)
Introduction to electronics including testing procedures, operational aspects of equipment and devices, and definitions of important terms. Prerequisite: CEDM 100N or consent of instructor. Community Colleges only.

E T 182. Digital Logic 3 cr.
The use of truth tables, Boolean equations, and diagrams to define, simplify, and implement logic-valued functions.

E T 183. Applied DC Circuits 2 cr.
Application of Ohm's law, Kirchoff's laws, Thévenin's, and Norton's theorems to the analysis of DC passive circuits. Corequisite: MATH 180 or MATH 121G.

E T 183 L. Applied DC Circuits Lab 1 cr. (2P)
Laboratory to accompany E T 183. Corequisite: E T 183.

E T 184. Applied AC Circuits 2 cr.
Application of circuit laws and theorems to analysis of AC passive circuits. Resonant circuit, polyphase circuit and magnetic circuit topics are introduced. Corequisite: MATH 180 and MATH 121G.

E T 184 L. Applied AC Circuits Lab 1 cr. (2P)
Laboratory to accompany E T 184. Corequisite: E T 184.

E T 190. Applied Circuits 3 cr.
Application of Ohm's law, Kirchoff's laws, and Thévenin's theorems to the analysis of AC and DC passive circuits. Electronic circuit topics are introduced. Corequisite: MATH 190G

E T 191. Applied Circuits Laboratory 1 cr. (2P)
Laboratory to accompany E T 190.

E T 200. Special Topics 1-3 cr.
Directed study or project. Prerequisite: consent of department head. May be repeated for a maximum of 6 credits.
Principles and methods used in the detection of measuring and imaging radiation, gross detection methods as well as radionuclide spectroscopy, statistics of counting. Prerequisite: ET 121.

ET 214. Production Planning Systems 4 cr.
Description of how to establish, develop and review a forecast, production plan, and master production schedule; consolidate demand into factory requirements, calculate capacity and compute capacity requirements, understand the bill of material and product data management, and be able to develop and execute a materials requirement plan. Prerequisites: MATH 180 and MATH 121G. Community Colleges only.

Fundamental concepts of chemistry and its application to hazardous materials found in the workplace. Includes nature of matter and energy, inorganic and organic chemistry, physical and chemical properties of matter, acids, bases, and chemistry of toxic substances and flammables. Prerequisite: high school chemistry or C or better in CHEM 110. Corequisite: ET 115 and CHEM 111G. Carlsbad Community College Campus only.

ET 216. Drafting Concepts/Computer Drafting Fundamentals II 4 cr. (2+4P)
Drafting for mechanical/industrial applications, machine part detailing, assemblies in orthographic, isometric, auxiliary, oblique, and sectional views. Two-dimensional Auto CAD with introduction to 3-D Auto CAD. Prerequisite: ET 106. Community Colleges only. Same as DRFT 112.

ET 217. Manufacturing Processes 3 cr.
Manufacturing methods and industrial processes which include casting, forming and machining. Introduction to the composition, fabrication, characteristics, and applications of industrial materials. Prerequisite: ET 110 and MATH 185. Corequisite: ET 217L. Same as I E 217.

ET 217L. Manufacturing Processes Lab 1 cr. (3P)
Laboratory to accompany ET 217. Corequisite: ET 217. Same as I E 217L.

ET 220. Internship 1-6 cr.
Internship requiring an approved number of hours of varied and progressive experience in the field of study. The scope and other requirements of the internship are stated in an individualized syllabus and through a memorandum of understanding between the faculty mentor and the industry partner. Prerequisite: Consent of instructor. May be repeated for a maximum of 6 credits.

ET 221. Applied Radiation Biology 2 cr.
Cell biology and effects of ionizing radiation on biological systems; acute, chronic, and genetic effects of ionizing radiation on humans. Prerequisite: ET 121.

ET 222. Project Planning, Implementation and Control 4 cr.
Integration of the production planning and control systems with production applications on the factory training floor, including continuous improvement techniques using the concepts of agility, lean manufacturing, focused factory, CNC, cells and flow manufacturing. Prerequisites: MATH 180, MATH 121G, ENGL 218G, ET 107, and ET 214. Community Colleges only.

ET 225. Applied Industrial Hygiene and Safety 3 cr.
Chemical, physical, biological, and ergonomic stresses of humans associated with the industrial environment; noise, air quality, person-machine interaction, sampling methods and proper control methods. Safety related laws and regulations. Prerequisite: MATH 180 and 185. Community Colleges only.

ET 226. Environmental Technology Internship 1 cr.
Hands-on experience in the world of environmental work in a supervised atmosphere. Students participate in groundwater monitoring program currently in operation at Navajo Refinery in Artesia and proposed field trips and other instructional opportunities. Students strongly encouraged to participate in an internship or co-op program where available. Prerequisite: consent of instructor. May be repeated for a maximum of 3 credits. Restricted to Environmental Science and Technology majors. Carlsbad Community College campus only.

ET 230. Introduction to Servo Systems 3 cr.
Introduction to Servo Systems. Topics include uses of servos in the industry, servo types, loop gains and frequency response, software control systems, damping, feedback, encoders, sychron and resolvers. Prerequisite(s): ET 246.

ET 234. Shop Floor Control Systems 4 cr.
Inventory management techniques, plans, item level planning and control, physical inventory storage and handling, finished goods distribution, production order release, data collection and floor control, flow systems, JIT production, interfaces and implementation. Prerequisites: MATH 180 and MATH 121G. Community Colleges only.

ET 237. Surface Mount Technology 4 cr. (3-3P)
Introduction to surface mount technology including safety, processes, equipment, solder paste, component placement, soldering, cleaning, rework, troubleshooting, equipment maintenance and repair, and the technologies of wire bonding and chip-on-board processing. Prerequisites: MATH 180, MATH 121G, ET 104, and ET 204. Community Colleges only.

ET 240. Applied Statics 3 cr.
Fundamental topics of applied statics, including force system analysis, equilibrium, free body diagrams, methods of joints and sections, distributed loads, friction, centroids, area moments, and shear and moment diagrams. Prerequisite: PHYS 211G. Corequisite: MATH 235.

ET 241. Applied Dynamics 3 cr.
Applied kinematic and kinetic planer analysis of particles and rigid bodies, including use of kinematic equations, Newton's second law, the work energy method, and the impulse momentum method. With recitation sessions, as required. Prerequisite: ET 240 and MATH 235.

ET 244. Machine Repair 4 cr. (3-3P)
Machinery preventive maintenance, overhaul and parts replacement including wear ring and busing manufacture, hand fitting, alignments, precision scraping and tolerance restoration. Prerequisites: MATH 180 and MATH 121G. Community Colleges only.

ET 245. Computer Hardware Fundamentals 3 cr.
Computer hardware fundamentals including architecture, interfacing, peripherals, troubleshooting, system upgrades, and maintenance. Prerequisites: ET 182 and ET 160.

ET 246. Electronic Devices I 4 cr. (3-3P)
Solid-state devices including diodes, bipolar-transistors, and field effect transistors. Use of these devices in rectifier circuits, small signal and power amplifiers. Prerequisites: ET 190 and ET 191.

ET 248. Basic Hydrogeology 3 cr.
Provides an overview of groundwater: its occurrence, distribution, movement and chemistry. Techniques used in evaluating hydrologic parameters such as hydraulic conductivity, storativity, and porosity. Prerequisite: MATH 120.

ET 250. Electronic Drafting 3 cr. (1+4P)

ET 251. Design Topics 1-3 cr.
Directed individual project. May be repeated for a maximum of 3 credits. Prerequisite: consent of department head.

ET 253. Networking Operating Systems II 3 cr. (3-1P)
Introduction to a computer network operating system. Prerequisite: ET 120. Community Colleges only.

ET 254. Concrete Technology 3 cr. (2-2P)
Fundamentals of aggregates, Portland cement, and asphalt used in design and construction.

ET 255. Web Systems 3 cr.
Introduction to web technologies and systems, including hypertext, self-descriptive text, web page design, web navigational systems, and cascading style sheets. Prep/Corequisites(s): ET 160.

ET 256. Networking Operating Systems III 3 cr. (3-1P)
Introduction to a computer network operating system. Prerequisite: ET 120. Community Colleges only.
E T 284. Software PC Maintenance 3 cr. (3+1P)

E T 283. Hardware PC Maintenance 3 cr. (3+1P)

E T 282. Digital Electronics 4 cr. (3+3P)

E T 279. Fundamentals of Networking Communications IV 3 cr. (2+2P)

E T 278. Fundamentals of Networking Communications III 3 cr. (2+2P)

E T 277. Fundamentals of Network Communications II 3 cr. (2+2P)

E T 276. Electronic Communications 4 cr. (3+3P)

E T 275. Environmental Laws and Regulations 3 cr.

E T 274. Industrial Electronics 3 cr. (2+3P)

E T 273. Fundamentals of Networking Communications I 3 cr. (2+2P)

E T 272. Electronic Devices II 4 cr. (3+3P)

E T 271. Applied Radiation Protection 3 cr.

E T 270. Software Technology I 3 cr. (2+2P)

E T 269. Environmental Monitoring 4 cr.

E T 268. Applied Robotics 3 cr. (2+2P)


E T 266. Sensors and Control Systems, DC and AC Motors and Generators, and Transformers. Prerequisite: E T 246.

E T 265. Networking Basics, Including Computer Hardware and Software; Electricity; Networking Terminology; Protocols; LANs; WANs; OSI Model; IP Addressing; and Design and Documentation of Basic Network and Structure Cabling. Community Colleges Only.

E T 264. Fundamentals of Robotics including Mechanical Linkages and Manipulators, Sensors, Open and Closed Loop Control, and Programming with an Emphasis on Practical Applications. Prerequisite: CS 110 or ET 120 or Consent of Instructor. Carlsbad Community College Campus Only.

E T 263. Applied Radiation Protection 3 cr.

E T 262. Software Technology I 3 cr. (2+2P)

E T 261. Survey of Federal and State Regulations in Waste Management, Workplace Safety, and Environmental Protection. Students Apply Regulations to Simulated Work Conditions to Gain a Better Understanding of Regulations. Prerequisites: ET 115 and ENGL 111. Carlsbad Community College Campus Only.

E T 285. Principles of Security 3 cr. (3+1P)

E T 284. Fundamentals of Security 3 cr. (3+1P)

E T 283. PC Disaster and Data Recovery 3 cr.

E T 282. Microprocessor Technology 3 cr. (2+3P)

E T 281. Survey of Waste Management, Workplace Safety, and Environmental Protection. Students Apply Regulations to Simulated Work Conditions to Gain a Better Understanding of Regulations. Prerequisites: ET 115 and ENGL 111. Carlsbad Community College Campus Only.

E T 280. Networking Wireless Communication 3 cr. (3+1P)


E T 277. Introduction to WAN Technology Basics, Including WAN Devices; Encapsulation Formats; PPP Components; Session Establishment; Authentication; ISDN Uses, Services, and Configuration; and Frame-Relay Technology and Configuration. Prerequisite: ET 278. Community Colleges Only.


E T 275. Analog Electronics 4 cr. (3+3P)

E T 274. Fundamentals of Networking Communications IV 3 cr. (2+2P)

E T 273. Fundamentals of Networking Communications III 3 cr. (2+2P)
E T 308. Fluid Technology 3 cr.
Application of basic principles of fluid mechanics to practical applied problems. Prerequisites: MATH 235 and E T 240.

E T 308L. Fluid Technology Lab 1 cr. (SP)
Measurements in fluid statics, dynamics, and hydraulic systems. Corequisite: E T 308.

E T 309V. Manufacturing; History and Technology 3 cr.
The history of manufacturing, the technology on which it is based, and its impact on society.

E T 310. Applied Strength of Materials 3 cr.
Application of principles of strength of materials to practical design and analysis problems. Prerequisites: MATH 235 and E T 240.

E T 310L. Applied Strength of Materials Lab 1 cr. (SP)

EPA approved Environmental Response Training Program Course 165.5. Intended for persons working at hazardous waste sites. Normally should be taken during last year of study. Same as E S 311.

Same as E S 312, WERC 312.

E T 314. Communications Systems I 3 cr.
Circuits and devices used for transmission, reception, and processing of RF signals. Consent of instructor required. Prerequisite(s): ET 240.

E T 315. Computer-Integrated Manufacturing 3 cr. (2-3P)
An introduction to computer applications in manufacturing. Prerequisite: junior standing in E T.

E T 317. Manufacturing Technology 3 cr.
Modern manufacturing methods and processes with characteristics and applications of industrial materials. For non-majors.

E T 317L. Manufacturing Technology Lab 1 cr. (SP)
Lab to accompany E T 317. Corequisite: E T 317.

E T 320. Applications Software for Engineering Technologists 3 cr. (2-3P)
Use of existing software packages for engineering technology applications. Prerequisite: junior standing in E T.

E T 321. Water and Wastewater Treatment Technology 3 cr. (2-3P)
Introduction to physical, chemical, and biological processes in water purification and treatment. Wastewater collection, treatment, disposal and reuse. Prerequisites: CHEM 110G, MATH 236, and E T 308.

E T 324. Linear Integrated Circuits 4 cr. (3-3P)
Analysis of linear electronic circuits including active devices. Prerequisites: MATH 236 and E T 272.

E T 327. Tooling Systems 3 cr.
The design, evaluation, and application of tooling systems in machining, stamp and die, casting, and other manufacturing processes. Prerequisite: junior standing in E T.

E T 328. Kinematics of Machines 0-3 cr.
Kinematic analysis of machine elements with topics of linkages, cams, and gears. Graphical and analytical solutions using computer techniques. Prerequisites: E T 241.

E T 330. Environmental Management Seminar I 1 cr.
Survey of practical and new developments in hazardous and radioactive waste management provided through a series of guest lectures and reports of ongoing research. Prerequisite(s): ET 310 and ET 310L. Corequisite(s): MATH 236. Restricted to: Main campus, . . . Restricted to ETSE majors. Crosslisted with: C E 330, CH E 330, E E 330, M E 330, I E 330 and WERC 330.

E T 332. Applied Design of Structures I 4 cr. (3-3P)
An introduction to structural analysis and design. Use of various building codes for development of allowable and factored loads on structures. Allowable stress and strength design concepts for structural components using concrete and steel. Required use of computer software such as spreadsheets, databases, and self-developed programs and design aids.

E T 333. Directed Readings in Intellgence 3 cr.
Selected readings in specific areas of intelligence in order to build a historical knowledge base and to hone the ability to critically read, comprehend, synthesize, analyze, and evaluate. Prerequisite: junior or senior standing.

E T 339. Computer Forensics 3 cr. (2-3P)
Legal, regulatory, and technical aspects of computer forensics. Topics include current law; privacy legislation; chain of evidence; creating a computer incident response team; and the extraction, preservation, analysis, and presentation of computer-related evidence. Prerequisites: ET 182 and (ET 262 or ET 245).

E T 340. AC and DC Circuits 4 cr.
Same as E T 190 but with differentiated assignments for nonmajors. Prerequisite: consent of instructor. For majors other than E T.

E T 341. AC and DC Circuits Lab 1 cr. (2P)
Same as E T 191 but with differentiated assignments for nonmajors. Prerequisite: consent of instructor.

E T 342. Digital Electronics I 3 cr.
Same as E T 182 but with differentiated assignments for nonmajors. Prerequisite: consent of instructor.

E T 343. Digital Electronics II 4 cr. (3-3P)
Same as E T 282 but with differentiated assignments for nonmajors. Prerequisite: consent of instructor. For majors other than E T.

E T 344. Microcomputer Systems 3 cr.
Microcomputer and/or microcontroller systems applications and architectures with a software emphasis using assembly language programming. Prerequisite(s): E T 182 Pre/Corequisite(s): E T 262.

E T 345. Computer Hardware Fundamentals 3 cr.
Computer hardware fundamentals including architecture, interfacing, peripherals, troubleshooting, system upgrades, and maintenance. Prerequisite: Junior standing in E T.

E T 354. Soil and Foundation Technology 4 cr. (3-3P)
Fundamentals of investigation of soil properties and their importance in design, construction, and testing as related to buildings, roads, dams, and other structures. Design of foundations considering slope stability, bearing capacity and settlement. Prerequisites: E T 240 and E T 254. Restricted to Engineering Technology and Civil Engineering majors.

E T 355. Site/Land Development and Layout 3 cr.
Techniques, methods, and takeoffs for infrastructure layout, site plan design, grading, earthwork, utilities, road construction. Prerequisites: SUR 222 and junior standing. Restricted to majors. Restricted to Engineering Technology and Civil Engineering majors.

E T 360V. Technology in Business and Society 3 cr. (2-2P)
Examination of how technology affects business and society with specific attention to understanding the role of technical personnel and their interaction with nontechnical personnel.

E T 361. Safety Systems and Programs 3 cr.
The planning and implementing of safety systems and risk management programs in compliance with statutes and codes. Corequisite: COMM 265G.

E T 362. Software Technology II 3 cr.
A continuation of topics from E T 262 that are directed toward more advanced software development. Topics include problem analysis, object oriented, structured logic, and development concepts. Prerequisite(s): E T 262.

E T 365. Building Utilities 3 cr. (2-3P)
Basic design and code applications in plumbing and electrical systems for buildings. Prerequisites: junior standing in E T.

E T 368. Robotics 3 cr. (2-2P)
Theory and practice of computer controlled mechanisms, with emphasis upon manipulative and translational devices. Prerequisites: junior standing in E T.

E T 374. Electric Power Distribution 3 cr.
Balanced and unbalanced loads for three-phase systems. Transformer and transmission line technology, circuit protection and interrupting devices. Prerequisite: junior standing in E T.

E T 377. Computer Networking I 3 cr. (2-2P)
Computer network design and applications for LAN to WAN, protocols, switches, bridges, routers, NT server, TCP/IP networks, network diagnostics, voice over IP, wireless networks, and the OSI layers from physical to transport. Prerequisite: ET 182.

E T 381. Renewable Energy Technologies 3 cr. (2-3P)
Renewable energy systems, including topics in thermal-solar, photovoltaic, wind, geothermal systems, and other current topics. Theory, practical applications, safety considerations and the economics of alternative renewable energy systems compared to conventional systems. Prerequisite(s): MATH 121G. Crosslisted with: WERC 381.

E T 382. Solar Energy Technologies 3 cr. (2-3P)
Solar energy technologies, including topics in passive, solar thermal, and photovoltaic systems. Theory, practical applications, safety considerations and the economics of solar renewable energy systems compared to conventional systems. Prerequisite(s): MATH 121G. Crosslisted with: WERC 382.
E T 384. Wind Energy Technologies 3 cr.
Wind and Water energy technologies, including topics in small and large scale systems. Theory, practical applications, safety considerations and the economics of wind and water renewable energy systems compared to conventional systems. Same as WERC 384. Prerequisite: MATH 121G.

E T 386. Sustainable Construction and Green Building Design 3 cr.
Sustainable Building materials, methods, and techniques including green architecture and design, codes, standards and specifications. Prerequisite: MATH 121G.

E T 390. Environmental Technology 3 cr.
Impact of waste materials on the environment and human health, with emphasis on hazardous materials. Prerequisite: junior standing in E T.

E T 391. Waste Management Technology 3 cr.
Technologies available for safe management of hazardous materials including monitoring, transporting, storing, treating, disposal, and reclamation. Prerequisites: E T 361 and all math and science requirements.

E T 396. Heat Transfer and Applications 3 cr. (2+3P)
Fundamentals of conduction, convection, and radiation heat transfer. Application of heat transfer, thermodynamics, and fluid mechanics principles to thermal system analysis and design. Prerequisites: E T 308. Corequisite: E T 398.

E T 398. Digital Systems 3 cr. (2+3P)
Advanced analysis and design of digital systems using state machine logic, programming of logic devices, implementation and testing. Prerequisite(s): E T 282. Pre/Corequisite(s): E T 362.

E T 400. Special Topics 1-3 cr.
Directed study or project. Prerequisite: consent of department head. May be repeated for a maximum of 6 credits.

HVAC system design including heating and cooling load calculations, psychrometrics, piping, duct layout, and system control. Prerequisite: E T 308. Corequisite: E T 396. Same as M E 401.

E T 402. Instrumentation 3 cr. (2+3P)
Sensors/transducers, signal conditioning and transmission for measurement and control systems. Student project in an area of instrumentation and/or control is required. Prerequisite: senior standing in E T.

E T 403. Six Sigma Process Improvement 3 cr.
Six Sigma process-improvement methodology. Six Sigma tools are developed as the course progresses through each phase of Six Sigma: define, measure, analyze, improve, and control. Prerequisite: junior or senior standing.

E T 404. Quality in Manufacturing 3 cr.
Total quality, reliability, and statistical process control for industrial systems. Prerequisite: E ST 311.

E T 407. Security Technology 3 cr.
The design, analysis and implementation of security systems and subsystems including threat detection and response, information and communications security, and physical protection. Prerequisite: E T 357.

E T 410. Senior Seminar 1 cr.
Transition from academics to business and industry. Graded S/U. Prerequisite: senior standing in E T.

E T 412. Highway Technology 3 cr.
Road-vehicle performance, geometric alignment, traffic analysis, highway materials, pavement design, and plan and profile development. Prerequisites: E T 355.

E T 414. Communications Systems II 3 cr.
Advanced electronic communications systems, including satellite, microwave, and fiber optic transmission and video technology. Prerequisites: E T 314 and senior standing in E T.

E T 415. Manufacturing Management and Productivity 3 cr.
Projects incorporating concurrent engineering, total quality management, design for manufacturability/assembly, and other contemporary topics in manufacturing. Prerequisite: senior standing in E T.

E T 418. Applied Hydraulics 3 cr.
Introduction to hydraulics, hydraulic equations, hydraulic cross-sections, control structures, and collection and distribution of water, wastewater, and storm runoff using closed conduit and open channel flow. Prerequisite: E T 308 and MATH 236.

E T 420. Senior Internship 1-6 cr.
Internship requiring an approved number of hours of varied and progressive experience in the field of study. The scope and other requirements of the internship are stated in an individualized syllabus and through a memorandum of understanding between the faculty mentor and the industry partner. Taken in the senior year of program. Prerequisites: Senior standing in E T.

E T 421. Senior Project 3 cr.
Project in an area of civil engineering technology conducted under the direction of civil engineering technology faculty member. Project must be one that can be completed within a semester and of sufficient complexity for 3 credits. Taken last semester of program.

E T 422. Mechanical Measurements 3 cr. (2+3P)
Techniques in mechanical measurements, including topics in experimental techniques, measurement devices and systems, data acquisition, data transmission, signal conditioning, data analysis, data verification, and report writing. Prerequisite: senior standing in E T.

E T 426. Analysis/Design of Machine Elements 3 cr. (2+3P)
Analysis of machine elements including columns, springs, shafts, coupling mechanisms, gears, belts and chain drives, clutches, brakes, and bearings. Prerequisites: MATH 236 and E T 310.

E T 432. Applied Design of Structures II 4 cr. (3+3P)
Continuation of ET 332. Design of structural systems and study of their responses. Wood and masonry systems included. Prerequisite: E T 332.

E T 434. Technology and Intelligence Analysis 3 cr.
Survey of the role and scope of technology used by the U.S. intelligence community, focusing on the human dimension of using technology to obtain timely and relevant information in the national interest. Prerequisite: junior or senior standing.

E T 435. Senior Design and Project Management 3 cr. (2+3P)
Capstone course. Practical application of student’s cumulative knowledge to assigned design projects that require implementation of standards analysis techniques and design principles, teamwork, and project management skills. Stresses importance of codes, standards, and economics in design practice. Demonstration of written and oral communication skills via project documentation and presentation of results. Prerequisite: graduating senior.

E T 437. Advanced Intelligence Analysis 3 cr.
Based on the Heuer framework and takes the student through traditional elements of intelligence analysis: indicators, warnings, and surprise; estimation and forecasts; and alternative futures, focusing on, and overcoming, human analytical shortcomings in intelligence production. Prerequisite: junior or senior standing.

E T 440. Senior Design 2 cr.
Team design of a system, mechanism, or model that will be fabricated or simulated during the following semester in E T 441. Prerequisite: senior standing in E T or consent of instructor.

E T 441. Senior Project 2 cr.
Team fabrication or simulation, testing, and debugging of a system, mechanism or model designed in E T 440. Prerequisite: E T 440.

E T 442. Intelligent Transportation Systems (ITS) 3 cr.
Traffic flow theory, telecommunication and information technology application in transportation, system architecture and standards, transportation management, incident and emergency management, corridor management, dynamic route guidance, in-vehicle systems, and traffic signal timing. Prerequisite: MATH 192G or MATH 236.

E T 444. Hardware and Software Senior Design 3 cr. (3+3P)
The design, development, implementation, documentation and formal demonstration of a microprocessor-based application to solve an engineering problem. Emphasis on microprocessor architectural concepts and software interfacing. A student project is required. Prerequisite(s): E T 344 and E T 398.

E T 445. Advanced Construction Technology 3 cr.
Contractor design and construction methods concerning formwork, special foundations, shoring, excavations, pilings, steel erection, and various material handling components. Prerequisite: E T 354 and E T 355.

E T 455. Cost Estimating and Scheduling 3 cr.
Methods and techniques in construction estimating including final bid preparation, construction planning and scheduling using various network methods and other techniques. Prerequisite: junior or senior standing in E T.

The design, analysis and implementation of security systems and subsystems including threat detection and response, information and communications security, and physical protection. Prerequisite: junior standing.


ET 463. Computer Systems Administration 3 cr. A continuation of topics in computer systems administration from ET 462. Prerequisite: ET 462.

ET 468. Applications of Electronic Devices 3 cr. (2+3P) Study of the applications of analog and digital devices as they are commonly used in data acquisition systems. Includes basic construction and diagnostic skills. Prerequisite: senior or graduate standing.

ET 469. Data Acquisition and Computer Interfacing 3 cr. (2+3P) Survey of computers and associated hardware available to the research community. Includes practical digital signal processing methods and an overview of transducers. Prerequisites: senior or graduate standing and ET 468 or consent of instructor.

ET 470. Data Analysis and Acquisition 3 cr. (2+3P) The use of hardware and software to establish a unified and efficient data collection and analysis system. Prerequisites: senior or graduate standing and ET 469 or consent of instructor.

ET 477. Computer Networking II 3 cr. Advanced concepts in computer network design and applications including managing the campus network, virtual LANs (VLAN), network security, wireless networks, high-speed optical networks, voice over IP, and Linux networking. Prerequisite(s): ET 377.

ET 479. Developing and Managing Educational Networks 3 cr. Knowledge and skills to set up and maintain a safe, healthy, developmentally appropriate learning environment in which young children can explore and manipulate materials and equipment. Prerequisite(s): ECED 115 and ENGL 111G.

ET 480. Design and Problem Solving in Engineering and Technology 3 cr. Advanced development of curriculum appropriate for the ages and development levels of children. Content includes, but is not limited to, the arts, literacies, mathematics, physical education, health, social studies, science, and technology. Prerequisites: ET 377 and E 482 or ET 469.

ET 490. Selected Topics 1-3 cr. Selected topics in engineering technology and related areas. Prerequisite: consent of instructor.

ECED - EARLY CHILDHOOD EDUCATION

ECED 115. Child Growth, Development, and Learning 3 cr. Biological-physical, social, cultural, emotional, cognitive, and language domains of child growth and development. The process of development and the adult’s role in supporting each child’s growth, development, and learning.

ECED 125. Health, Safety, and Nutrition 2 cr. Sound health, safety, and nutritional practices to provide an emotionally and physically safe environment for young children in partnership with their families.

ECED 125. Family and Community Collaboration 3 cr. Development of open, friendly, and collaborative relationships with each child’s family, encouraging family involvement, and supporting the child’s relationship with his or her family. The diverse cultures and languages representative of families in New Mexico’s communities are honored. Prerequisites: ECED 115 and ENGL 111G.

ECED 201. Learning Environment Design in Early Childhood 3 cr. Knowledge and skills to promote communication and creative development in young children.

ECED 203. Social Development in Early Childhood 3 cr. Knowledge and skills needed for a systematic, effective approach to program operation.

ECED 210. The Young Child 3 cr. Knowledge and skills in child development and observation techniques. Introduction to the profession.

ECED 215. Curriculum Development and Implementation I 3 cr. Development of curriculum appropriate for the ages and development levels of children. Content includes, but is not limited to, the arts, literacy, mathematics, physical education, health, social studies, science, and technology. Prerequisites: ECED 115, ENGL 111G, and consent of instructor or two letters of recommendation from program faculty. Corequisite: ECED 219.

ECED 220. Early Childhood Education Practicum I 2 cr. Application of curriculum appropriate for the ages and development levels of children. Content includes, but is not limited to, the arts, literacy, mathematics, physical education, health, social studies, science, and technology. Prerequisites: ECED 115, ENGL 111G, and consent of instructor or two letters of recommendation from program faculty. Corequisite: ECED 219.

ECED 225. Curriculum Development and Implementation II 3 cr. Advanced development of curriculum appropriate for the ages and development levels of children. Content includes, but is not limited to, the arts, literacy, mathematics, physical education, health, social studies, science, and technology. Prerequisites: ECED 115, ENGL 111G, and consent of instructor or two letters of recommendation from program faculty. Corequisite: ECED 220.

ECED 230. Early Childhood Education Practicum II 2 cr. Advanced application of curriculum appropriate for the ages and development levels of children. Content includes, but is not limited to, the arts, literacy, mathematics, physical education, health, social studies, science, and technology. Prerequisites: ECED 115, ENGL 111G, and consent of instructor or two letters of recommendation from program faculty. Corequisite: ECED 225.

ECED 235. Introduction to Reading and Literacy Development 3 cr. Selection of developmentally appropriate materials and appropriate instructional methods for the development of reading and literacy in young children. Prerequisites: ECED 115 and ENGL 111G.

ECED 245. Early Childhood Education Professionalism 2 cr. Development of integrity, responsibility, and ethical practices that demonstrate multicultural respect for all children and families.

ECED 250. Independent Study 1-3 cr. Independent study for specific area of early childhood education. Prerequisite: Consent of instructor. Restricted to majors.

ECED 252. Physical and Cognitive Development in Early Childhood 3 cr. Knowledge and skills to promote physical and cognitive development in young children.

ECED 253. Guidance Techniques in Early Childhood 3 cr. Knowledge and skills to promote positive social interactions and problem solving skills for young children.
ECED 255. Assessment of Children and Evaluation of Programs 3 cr.
Development of diverse assessment approaches, including observational skills. Prerequisites: ECED 115 and ENGL 111G. Same as SPED 255.

ECED 257. Child Care Field Experience I 1-4 cr.
Supervised field experience in diverse settings including but not limited to day-care centers, Headstart programs, public schools, family day care homes. Graded S/U.

ECED 258. Child Care Field Experience II 1-4 cr.
Supervised field experience in diverse settings including but not limited to day-care centers, Headstart programs, public schools, family day care homes. Graded S/U.

ECED 259. Child Care Field Experience III 1-4 cr.
Supervised field experience in diverse settings including but not limited to day-care centers, Headstart programs, public schools, family day care homes. Graded S/U.

ECED 260. Child Care Field Experience IV 1-4 cr.
Supervised field experience in diverse settings including but not limited to day-care centers, Headstart programs, public schools, family day care homes. Graded S/U.

ECED 265. Guiding Young Children 3 cr.
Role of adults in guidance, effect of child development on guidance and development of pro-social behaviors using developmentally appropriate guidance strategies.

ECED 270. Program Management 3 cr.
Technical knowledge necessary to develop and maintain a quality early care and education program. The course will focus on sound financial management and vision, laws and legal issues that affect programs and state and national standards including accreditation requirements. Prerequisite: consent of instructor.

ECED 275. Curriculum for Diverse Learners and Their Families 3 cr.
Implementation of family-centered programming that includes developmentally appropriate and culturally responsive curriculum. The course will also cover the establishment and maintenance of healthy and safe learning environments. Prerequisite: Consent of instructor.

ECED 280. Professional Relationships 3 cr.
Development of staff relationships that will foster strong professional relationships with and among families, communities and advisory boards. Issues of staff recruitment, retention, support and supervision will lay a foundation for positive personnel management. Working effectively with board, advisory groups and community members and agencies will be addressed. Prerequisite: Consent of instructor.

ECED 295. Contemporary Developments 1-4 cr.
Offered under different subtitles in the Schedule of Classes. May be repeated for a maximum of 9 credits.

ECED 299. Special Topics 1-4 cr.
Offered under different subtitles in the Schedule of Classes.

ECED 315. Research in Child, Growth, Development and Learning 3 cr.
Advanced course builds on foundational material covered in the basic course. An integration of major theories is provided by focusing on contemporary research in all aspects of child development, including bio-ecological, social-affective, cognitive-learning, language-cultural, and methodological aspects of research in early childhood development and education. Prepares early childhood professionals in using empirically-based research to inform their teaching of young children. Builds upon indicators of competence established at the lower division (AA) level. For each course objective (core competency), students will demonstrate the indicators established for the bachelor’s level. Prerequisite: ECED 115.

ECED 327. Infant-Toddler Field Placement 1 cr.
Supervised field experience in diverse settings serving infants and toddlers. Restricted to majors. Graded S/U.

ECED 328. Preschool Field Placement 1 cr.
Supervised field experience in diverse settings serving children ages 3-5 years. Restricted to majors. Graded S/U.

ECED 329. Early Primary Field Placement 1 cr.
Supervised field placement in diverse early primary grades. Restricted to majors. Graded S/U.

ECED 335. Family and Community Collaboration II 2 cr.
Advanced course prepares prospective teachers for working effectively as partners with family and community members to facilitate the development and learning of children ages birth through 8, including children with special needs. Focuses on diverse family types that include various family structures and lifestyles; and linguistic, cultural, ethnic groups. The complexity and dynamics of families as systems will be included, and community resources to support families will be identified. Builds upon indicators of competence established at the lower division (AA) level. For each course objective (core competency) students will demonstrate the indicators established for the bachelor’s level. Prerequisite: ECED 135.

ECED 351. Literacy Development in Early Childhood 3 cr. (2+2P)
Same as RDG 351.

ECED 360. Introduction to Early Childhood Education 3 cr.
The teaching and caregiving of young children, birth through eight years of age. Same as ECED 560.

ECED 395. Special Topics 1-3 cr.
Each course will be identified by a qualifying subtitle. A maximum of 3 credits in any one semester and a grand total of 6 credits.

ECED 405. Home Center/School Collaboration 3 cr.
Techniques for working with parents as partners in their young child’s educational setting.

ECED 415. Working with Parents of Exceptional Learners 3 cr.
Methods and techniques for educators and other professionals in parent-professional relationships. Same as SPED 415.

ECED 420. Integrated Early Childhood Curriculum 3 cr.
Advanced course focuses on developmentally appropriate content, learning environments, and curriculum implementation for children ages birth to 5. Emphasizes integration of content areas (arts, literacy, math, health, science, social studies, and adaptive learning) and the development of rich learning environments for infants, toddlers and preschool children. Builds upon indicators of competence established at the lower division (AA) level. For each course objective (core competency) students will demonstrate the indicators established for the bachelor’s level. Prerequisites: ECED 125, ECED 215, ECED 220, ECED 225, ECED 230, ECED 245, and ECED 265. Corequisite: ECED 425. Restricted to majors.

ECED 425. Integrated Early Childhood Program 2 cr.
Advanced course provides opportunities for students to apply knowledge gained from Integrated Early Childhood Curriculum and develop skills in planning and implementing developmentally appropriate learning experience, integrated curriculum and learning environments for children ages birth to 5. Curriculum will include all content area: arts, health/wellness, literacy, math, social studies, science, and adaptive living skills for children with special needs. The practicum experience will be divided equally between classrooms serving children ages 3-5. Prerequisites: ECED 125, ECED 215, ECED 220, ECED 225, ECED 230, ECED 245, ECED 265. Corequisites: ECED 420. Restricted to majors.

ECED 430. Methods and Materials for the Early Primary Grades 3 cr.
Advanced course focuses on developmentally appropriate content, learning environments, and curriculum implementation for children in grades K-3. Emphasized integration of content areas (arts, literacy, math, health, science, and social studies) and the development of rich learning environments for the early primary grades. Course builds upon indicators of competence established at the lower division (AA) level. For each course objective (core competency), students will demonstrate the indicators established for the bachelor’s level. Prerequisites: ECED 125, ECED 215, ECED 220, ECED 225, ECED 230, ECED 245, ECED 265. Corequisite: ECED 435. Restricted to majors.

ECED 435. Methods and Materials for the Early Primary Grades Practicum 2 cr.
Advanced practicum provides opportunities to develop, implement, and evaluate developmentally appropriate and integrated learning experiences for children grades K-3. Create learning environments that are developmentally appropriate and culturally responsive for children in the early primary grades. The practicum builds upon indicators of competence established at the lower division (AA) level. For each course objective (core competency), students will demonstrate the indicators established for the bachelor’s level. Prerequisites: ECED 420 and ECED 425. Corequisite ECED 435. Restricted to majors.

ECED 440. Science/Math Curriculum 3 cr. (2+2P)
Methods and materials for developmentally appropriate practices in teaching science and math for young children. Same as ECED 540 with differentiated assignments for graduate students.

ECED 441. Language Arts/Social Studies Curriculum 3 cr. (2+2P)
Methods and materials for developmentally appropriate practices in teaching language arts and social studies for young children. Same as ECED 541 with differentiated assignments for graduate students.
ECON 290. Special Topics 1-3 cr.
ECON 304. Money and Banking 3 cr.
ECON 325V. Economic Development of Latin America 3 cr.
ECON 252G. Principles of Microeconomics 3 cr.
ECON 251G. Principles of Macroeconomics 3 cr.
ECED 480. Practicum in Early Childhood Education 1-6 cr.
ECED 489. Topics 3 cr.

**ECED 443. Assessment of Children and Evaluation of Programs**
Advanced course builds on understanding the connections among learning, teaching, and assessment and strategies for evaluating programs. Assessment, identification, and monitoring of typical and atypical development in the cognitive, motor, affective and social domains. Multiple and diverse assessment approaches, including responsiveness to cultural and linguistic differences will be emphasized. Builds upon indicators of competence established at the lower division (AA) level. For each course objective (core competency) students will demonstrate the indicators established for the bachelor’s level.

**ECED 451. Play in the Early Childhood Curriculum**
Development of curriculum based on children’s play; a means of exploring and learning the patterns of human living, communications, and experiences congruent with their developing interests and capacities.

**ECED 452. Teaching Language Minority Children in Early Childhood Settings**
Framework and strategies for the educational development of young language-minority children.

**ECED 455. Art/Music/PE Curriculum**
Methods and materials for developmentally appropriate practices in teaching art, music, and PE for young children.

**ECED 458. Field Experience Infants Pre-K**
Supervised field experiences in early childhood settings: infants, toddlers, and pre-K programs. Graded S/U.

**ECED 459. Field Experience K 3**

**ECED 465. Working with Handicapped Infants and Their Families**
Normal and atypical infant development, methods to work effectively with high-risk and handicapped infants/toddlers ages birth to two and their families. Same as SPED 465.

**ECED 470. Student Teaching/Seminar**
Provides student teaching experience in a variety of settings with young children ages birth 8.

**ECED 479. Curriculum in Early Childhood Education**
Development and implementation of curriculum and materials for teaching young children.

**ECON 201G. Introduction to Economics**
Economic institutions and current issues with special emphasis on the American economy.

**ECON 251G. Principles of Macroeconomics**
Macroeconomic theory and public policy: national income concepts, unemployment, inflation, economic growth, and international payment problems.

**ECON 252G. Principles of Microeconomics**
Microeconomic theory and public policy: supply and demand, theory of the firm, market allocation of resources, income distribution, competition and monopoly, governmental regulation of businesses and unions.

**ECON 250. Current Economic Issues**
Contemporary American socio-economic problems related to technology, environment, employment, economic security, and income distribution. Content changes as issues change. Prerequisites: ECON 251G and ECON 252G or consent of instructor.

**ECON 336. Labor Problems**
Evolution of labor problems, development of unions, industrial conflict, and employer-employee relationships, labor legislation. Prerequisite: 3 credits of economics.

**ECON 337V. Natural Resource Economics**
Prerequisite: ECON 201 or ECON 252. Same as AG E 337V.

**ECON 340. American Economic History**
The rise of big business and organized labor, increasing price rigidities, and growing government intervention. Same as HIST 340.

**ECON 346. The New Mexico Economy**
Growth and development of the economy of New Mexico and its relationship to the national economy. Prerequisite: 3 credits of economics or consent of instructor.

**ECON 350. Current Economic Issues**
Contemporary American socio-economic problems related to technology, environment, employment, economic security, and income distribution. Content changes as issues change. Prerequisites: ECON 251G and ECON 252G or consent of instructor.

**ECON 371. Intermediate Microeconomic Theory**
Contemporary economic theory with emphasis upon value and distribution. Prerequisite: ECON 252G or equivalent.

**ECON 372. Intermediate Macroeconomic Theory**
Analysis of aggregate economic theories of income, employment, inflation and growth. Prerequisite: ECON 251G or equivalent.

**ECON 384V. Water Resource Economics**
Use of economic principles to evaluate current and emerging issues in water resources. Applications focus on use of economic methods of analysis to current policy decisions surrounding agricultural, municipal, industrial, and environmental uses of water. Prerequisite: AG E 100 or ECON 252G. Same as AG E 384V.

**ECON 401. Managerial Economics**
Application of economic theory to problems of business management. Prerequisites: ECON 252G and either MATH 125 or MATH 142 or equivalent, or consent of instructor.

**ECON 405. Economic Statistics**
Multiple regression and correlation applied to economics and business; inference techniques; significance tests; simultaneous equations, estimation, and problems. Prerequisite: STAT 251G or equivalent.

**ECON 406. The Economics of Sports**
Applying the tools of economic analysis to a particular industry and gaining an in-depth knowledge of the interaction of professional sports teams and leagues with the economy and society. Prerequisites: one previous course in economics or consent of instructor. Same as AG E 408.

**ECON 422V. Economics of Health Care**
Analysis of the allocation of resources in the field of health and medical care.
EDUC 102. Internship I 3 cr.
Trade and capital flows between countries, international payments, government policy in balance-of-payments and tariff matters, international organizations. Prerequisite: ECON 206 or equivalent. Same as MGT 462.

EDUC 103. Internship in Bilingual Education/ESL 1-4 cr.
Supervised experience in bilingual education/ESL elementary or secondary classroom settings for prospective bilingual education/ESL teachers.

EDUC 105. CPR for Teachers 1 cr.
Students identify and respond to specific airway and circulation emergencies, AED use, and accessing the EMS system. Includes American Heart Association requirements for CPR course completion. Graded S/U.

EDUC 150. Math for Paraprofessionals 3 cr.
Applied math skills for paraprofessionals working with children. Prerequisite: CCDM 103.

EDUC 151. Math for Paraprofessionals II 3 cr.
Applied math skills for paraprofessionals working under the direction of a teacher. Prerequisite: EDUC 150.

EDUC 155. Paraprofessionals in the Classroom 3 cr.
Prepares the role of the instructional assistant in both regular education and special education classes including: assisting teacher in implementing programs and services; assisting student in social, physical, behavioral, emotional and/or academic programs in classroom and non-classroom settings; assisting with appropriate modifications and accommodations as described in the IEP. Other topics include confidentiality, communications skills, monitoring and recording student progress; discipline and classroom management; effective teaching strategies; working collaboratively with teacher and school teams. Community Colleges only.

EDUC 161. Project Wild 1 cr.
A supplemental, interdisciplinary instructional program for teachers of K-12 students. A way for teachers to incorporate concepts related to people, wildlife and a healthy environment into all major school subject and skill areas. Emphasizes lively, hands-on, diverse and instructionally sound educational activities. Community Colleges only.

EDUC 162. Project WET 1 cr.
Project WET (Water Education for Teachers), an international, interdisciplinary, water science and education program for formal and non-formal educators of K-12 student. Facilitates and promotes awareness, appreciation, knowledge, and stewardship of water resources through the development and dissemination of classroom ready teaching aids based on the Project WET Curriculum and Activity Guide, a collection of over 90 innovative, interdisciplinary activities that are hands-on, easy to use and fun. Community Colleges only.

EDUC 163. Project Learning Tree 1 cr.
An award winning environmental education program for teachers and other educators of students PK-12. Uses the forest as a window to the world to increase students understanding of our complex environment; stimulate critical and creative thinking; develop the ability to make informed decisions on environmental issues; and instill the confidence and commitment to take responsible action. Includes activities that help teach science, mathematics, English, language arts, social studies history, visual and performing arts. Community Colleges only.

EDUC 164. White Sands: The Outdoor Classroom 1 cr.
Designed for PK-12 formal and non-formal instructors and youth leaders to increase their awareness of the unique aspects the desert environment in general and of White Sands National Monument in particular. Assists participants in utilizing a local resource in their overall curriculum by providing materials, tools and methods to meet the educational standards that are meaningful and relevant to their students. Gives participants in-field and hands-on experiences. Community Colleges only.

EDUC 165. Educational Uses of Computers 2 cr.
Word processing, databases, spreadsheets, telecommunications, and curricular applications.

EDUC 181. Field Experience I 1 cr.
Introduction to public school teaching, school visits, classroom observations and discussion seminar.

EDUC 195. Individual Topics in Education 1-3 cr.
Supervised study in a specific area of interest. Each course shall be designated by a qualifying subtitle. May be repeated for a maximum of 9 credits.

EDUC 200. Educational Foundations 3 cr.
The psychological, philosophical, sociological, and legal bases of education. Prerequisite: must be a co-op student.

EDUC 202. Internship II 3 cr.
Supervised experience in junior high settings. Prerequisite: must be a co-op student.

EDUC 204. Foundations of Bilingual/ESL Education 3 cr.
Explore and review the historical, legal, philosophical, theoretical and pedagogical paradigms of bilingual/ESL education.

EDUC 206. Classroom Management for Paraprofessionals 3 cr.
Emphasis is placed on understanding child growth and development, classroom management, and principles of effective discipline.
EDUC 208. Educational Methods and Materials for Paraprofessionals 3 cr.
Focus on the development of materials and methods appropriate for teaching math and reading. Topics will include examination of cooperative learning, peer tutoring, and questioning strategies.

EDUC 210. Paraprofessionals in Education 3 cr.
Learning to be a productive member of an effective teaching team. Skills and techniques for educational paraprofessionals in preschool, elementary school, middle school, high school and special education.

EDUC 212. CPR/School-Age Health Issues for Paraprofessionals 1 cr.
A review of health related issues and problems with implications for paraprofessional educations. Community health resources and CPR will be covered.

EDUC 214. Literacy Education for Paraprofessionals 3 cr.
An examination of specific strategies in teaching reading and writing skills. Will include an overview of the major philosophies in reading and their approaches.

EDUC 216. Independent Studies 1-3 cr.
Independent studies in education for education associate majors. Prerequisite: Education associate major or consent of instructor. Restricted to EA and OEC majors.

EDUC 218. Bilingual Paraprofessional Field Experience 3 cr.
An interactive, supervised field experience in a public school setting. Prerequisite: consent of instructor. Restricted to majors. Community Colleges only.

EDUC 219. Pre-Teacher Preparation 3 cr.
Assists students in developing the necessary competencies needed for acceptance to the Teacher Education Program. Course content includes basic skill development, test taking skills, and completion of teacher preparation packet. Maybe repeated for a maximum of 6 credits. Graded S/U. Community Colleges only.

EDUC 270. Directed Study in Bilingual Education 1-4 cr.
Independent research topics in bilingual education/ESL based on particular individual interest or needs.

EDUC 300. Instructional Methodology 3 cr.
Classroom planning, curriculum development, teaching techniques and applications. Prerequisite: must be a co-op student.

EDUC 302. Internship III 3 cr.
Student teaching in public school classroom according to major area of interest.

EDUC 303. Internship in Bilingual Education/ESL 2 cr.
Placement and observation in an educational bilingual setting for prospective bilingual education teachers. Same as EDUC 381.

EDUC 315. Multicultural Education 3 cr. (2+2P)
The conceptual manifestations of culture, race and ethnicity, class, gender, exceptionalities, language and bilingualism within the schooling process. Same as EDUC 515 with differentiated assignments for graduate students.

EDUC 317V. Multicultural Issues in Society 3 cr.
Conceptual manifestations of culture, race, ethnicity, class, gender, exceptionalities, language, and bilingualism within and across society.

EDUC 341. Teaching Subject Matter in Spanish to Bilingual Learners 3 cr. (2+2P)
The integration of Spanish into teaching in the content areas: science, math, social studies, language arts, reading, and where needed.

EDUC 342. Sheltered English Instruction for the ESL Classroom 3 cr.
Addresses the acquisition of English proficiency by speakers of other languages.

EDUC 343. Language, Literacy, and Culture in the ESL Classrooms 3 cr.
Framework and strategies for developing the written abilities of second language learners.

EDUC 344. Issues in Schooling for Bilingual Learners 3 cr.
Current thought and direction regarding bilingual education in the United States and New Mexico.

EDUC 368. Integrating Technology with Teaching 2 cr.
Considers impact of technology on communication and knowledge development; engages students in the design of technology-integrated lessons within a constructivist approach.

EDUC 381. Field Experience III 2 cr.
Intensive observations, case study development, classroom language and culture, special education resources, student assessment and discussion seminar. Same as EDUC 303.

EDUC 394. Special Topics in Bilingual Education 3 cr.
Principles, practices, and instructional materials specific to reading among second language learners.

EDUC 395. Special Topics in Education 1-3 cr.
Offered under various subtitles in the Schedule of Classes. May be taken for a maximum of 3 cr. per semester and a total of 6 credits overall.

EDUC 402. Internship IV 6 cr.
Supervised co-teaching in educational setting according to major area of interest. Prerequisite: must be a co-op student.

EDUC 450. Methods of Teaching Early Childhood Education 3 cr.
Characteristics of the young child, play, guidance, communication, methods, materials, models, issues.

EDUC 451. Methods of Teaching Elementary School Science 3 cr. (2+2P)
Methods and materials for teaching elementary school science. Includes components of lessons and the use of multimedia. Prerequisites: 9 hours of science from biology, chemistry, physics, and earth sciences, with no more than 3 hours from any one department. Corequisites: ECEED 450, EDUC 452, and RDG 360 (Block A courses). Same as EDUC 551 with differentiated assignments for graduate students.

EDUC 452. Methods of Teaching Elementary School Mathematics 3 cr. (2+2P)
Content, theories of cognition, and instructional approaches for the teaching of mathematics in the elementary grades. Prerequisite: MATH 111. Corequisites: EDUC 450, EDUC 452, and RDG 360 (Block A courses). Same as EDUC 552 with differentiated assignments for graduate students.

EDUC 453. Methods of Teaching Elementary School Language Arts 3 cr. (2+2P)
Implications of language acquisition and development for instructional practices. Focus on student-centered response to literature, writing process, whole language learning, based on socio-psycholinguistic theory and research. Corequisites: RDG 361, EDUC 454, and EDUC 455 (Block B courses). Same as EDUC 553 with differentiated assignments for graduate students.

EDUC 454. Methods of Teaching Elementary School Social Studies 3 cr. (2+2P)
Focus on social studies curriculum and instruction including student-centered approaches, active learning, educational technology, nontextual curriculum, integration, multicultural education, authentic assessment, and practical applications. Corequisites: RDG 361, EDUC 452, and EDUC 455 (Block B courses). Same as EDUC 554 with differentiated assignments for graduate students.

EDUC 455. Methods of Teaching Elementary School Art, Music, and Physical Education 3 cr. (2+2P)
Methods and materials for teaching elementary art, music, and physical education. Corequisites: EDUC 453, EDUC 454, and RDG 361 (Block B courses). Same as EDUC 555 with differentiated assignments for graduate students.

EDUC 460. Teaching Language Arts at the Middle and High School Level 3 cr. (2+2P)
Implications of cognition and language development for appropriate secondary instructional practices. Focus on construction of meaning, student-centered response to literature, writing process, print and oral language development, based on socio-psycholinguistic research and theory. Practicum required. Same as EDUC 560.

EDUC 461. Teaching Social Studies at the Middle and High School Level 3 cr. (2+2P)
Integrating content knowledge and pedagogy for the middle and high school teacher in social studies. The focus will be on a variety of instructional strategies and pedagogical skills that will enhance the learning of social studies. Practicum required. Same as EDUC 561.

EDUC 462. Teaching Mathematics at the Middle and High School Level 3 cr. (2+2P)
Integrating content knowledge and pedagogy for the middle and high school teacher in mathematics. The focus will be on a variety of instructional strategies and pedagogical skills that will enhance the learning of mathematics. Practicum required. Same as EDUC 562.

EDUC 463. Teaching Science at the Middle and High School Level 3 cr. (2+2P)
Integrating content knowledge and pedagogy for the middle and high school teacher in science. The focus will be on a variety of instructional strategies and pedagogical skills that will enhance the learning of foreign language for students in grades 6-12. Practicum required. Same as EDUC 563.

EDUC 464. Teaching Foreign Language at the Middle and High School Level 3 cr. (2+2P)
Integrating content knowledge and pedagogy for the middle and high school teacher in foreign language. The focus will be on a variety of instructional strategies and pedagogical skills that will enhance the learning of foreign language for students in grades 6-12. Practicum required. Same as EDUC 564.

EDUC 465. Special Topics in Bilingual Education/ESL 1-6 cr.
Topics and issues on current requests/needs in bilingual education. Practicum required. Same as EDUC 564.
EMD 101. Freshman Orientation 1 cr.
Introduction to the university and to the College of Education. Discussion of and planning for individualized education program and field experience. Graded S/U.

EMD 195. Teacher Pathway Orientation 1-3 cr.
Introduction to the education profession for public school students who are participating in the Teacher Pathway Program. Special permit required. Restricted to education majors. Graded S/U.

EMD 250. Introduction to Education 2 cr.
An overview of the American education system with emphasis on organization, governance, law, demographics, and professional practice.

EMD 250V. Introduction to Educational Leadership in a Global Society 3 cr.
Multinational educational systems covered through knowledge of the U.S. system of education promoting critical leadership roles every citizen plays in the success of educational systems.

EMD 411. Foundation for School Library Specialists 3 cr.
Elements of librarianship. Introduction to the history, purpose, and role of the school library. Overview of current issues and legislation affecting school libraries. Same as EMD 511.

EMD 412. Administration of the School Library 3 cr.
Principles and practices related to the function, structure, and management of school libraries. Same as EMD 512.

Introduction to the integration of curriculum in school library programs. Current trends in collaborative planning and teaching between the school librarians and teachers. Same as EMD 513.

Principles of identifying, selecting, acquiring, managing, and evaluating information for school libraries. Same as EMD 514.

ENGL-ENGLISH

ENGL 111G. Rhetoric and Composition 4 cr.
Skills and methods used in writing university-level essays. Prerequisite: ACT standard score in English of 16 or higher during regular semester (20 or above during summer) or successful completion of a developmental writing course or the equivalent.

ENGL 111GH. Rhetoric and Composition Honors 4 cr.
Individualized assignments and independent study. Prerequisite: ACT standard English score of 25 or higher and departmental approval. Satisfies 4 credits of General Education English Composition requirement.

ENGL 112. Rhetoric and Composition II 2 cr.
A continuation of English 111G for those desiring more work in composition. Weekly themes based on outside reading. Prerequisite: successful completion of ENGL 111G or the equivalent.

ENGL 115G. Perspectives on Literature 3 cr.
Examines literature by writers from culturally diverse backgrounds and from different cultural and historical contexts. Explores various strategies of critical reading.

ENGL 116G. Perspectives on Film 3 cr.
Explores narrative and documentary film and examines significant developments in the history of cinema. Criticism of film as an art form, technical enterprise, business venture, and cultural phenomenon.

ENGL 175. Media Culture: History of Film and Media 3 cr.
Explores the history of cinema from the earliest 19th century developments to the present digital video revolution offering a broader base of understanding of the tools and methodologies used in the craft.

ENGL 200. Independent Study 1-3 cr.
Individual work in literature; open to freshmen excused from freshman composition and others. Prerequisite: consent of instructor. May be repeated for unlimited credit under different subtitles.

ENGL 202. Professional Editing 3 cr.
Description of types and levels of editing and editorial duties. Use of editing and proofreading symbols, usage guides, style guides, and style manuals. Production aspects of editing. Practice in on-line and hard-copy editing of documents. Cannot be used to satisfy general education writing requirements. Alamogordo campus only.

ENGL 203G. Business and Professional Communication 3 cr.
Effective writing for courses and careers in business, law, government, and other professions. Strategies for researching and writing correspondence and reports, with an emphasis on understanding and responding to a variety of communication tasks with a strong purpose, clear organization, and vigorous professional style.

ENGL 211G. Writing in the Humanities and Social Sciences 3 cr.
Theory and practice in interpreting texts from various disciplines in the humanities and social sciences. Strategies for researching, evaluating, constructing, and writing researched arguments. Course subtitled in the Schedule of Classes.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 212</td>
<td>Introduction to Writing in the Workplace</td>
<td>3 cr.</td>
</tr>
<tr>
<td>ENGL 216G</td>
<td>Technical and Scientific Communication</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 226G</td>
<td>Introduction to Creative Writing</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 228G</td>
<td>Script Development and Storyboarding</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 225V</td>
<td>Modern European Drama</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 230V</td>
<td>Introduction to Southwestern Literature</td>
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<tr>
<td>ENGL 239V</td>
<td>Special Topics</td>
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<td>Theory and Criticism: Rhetoric and Culture</td>
<td>3 cr.</td>
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<td>Theory and Criticism: Literature and Culture</td>
<td>3 cr.</td>
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<td>Theory and Criticism: Film, Media and Culture</td>
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<tr>
<td>ENGL 244V</td>
<td>Introduction to Scientific Research and Writing</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 245V</td>
<td>Pancho Villa and the Columbus Raid</td>
<td>2 cr.</td>
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<tr>
<td>ENGL 251V</td>
<td>Survey of American Literature I</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 252V</td>
<td>Survey of American Literature II</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 255V</td>
<td>American Drama</td>
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<tr>
<td>ENGL 261V</td>
<td>Introduction to Literature</td>
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<tr>
<td>ENGL 262V</td>
<td>Masterpieces of Western European Literature, Post-Renaissance to Modern Times</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 263V</td>
<td>History of Argument</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 271V</td>
<td>Survey of English Literature I</td>
<td>3 cr.</td>
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<td>ENGL 272V</td>
<td>Survey of English Literature II</td>
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<tr>
<td>ENGL 278V</td>
<td>Introduction to Document Design</td>
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<tr>
<td>ENGL 294V</td>
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<td>Creative Writing: Prose</td>
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<td>Creative Writing: Poetry</td>
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<td>ENGL 307V</td>
<td>Creative Writing: Creative Nonfiction</td>
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<td>ENGL 309V</td>
<td>Screenwriting</td>
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<td>ENGL 310V</td>
<td>Critical Writing</td>
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<tr>
<td>ENGL 311V</td>
<td>Advanced Composition</td>
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<tr>
<td>ENGL 312V</td>
<td>Writing of nonfiction prose</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 315V</td>
<td>Writing for the Web</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 316V</td>
<td>Advanced Technical and Professional Communication</td>
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<td>Introduction to Scientific Research and Writing</td>
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<td>ENGL 321V</td>
<td>Modern European Drama</td>
<td>3 cr.</td>
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<tr>
<td>ENGL 322V</td>
<td>American Drama</td>
<td>3 cr.</td>
</tr>
<tr>
<td>ENGL 325V</td>
<td>Contemporary International Literature</td>
<td>3 cr.</td>
</tr>
</tbody>
</table>
ENGL 418. Modern Rhetorical Theory 3 cr.
Major figures in rhetorical theory, with particular emphasis on developments in rhetorical theory in the twentieth century.

ENGL 421. Advanced Study in a Literary Period or Movement 3 cr.
Close study of a historical or theoretical topic in a particular literary period or movement. Course subtitled in the Schedule of Classes. May be repeated under different subtitles.

ENGL 422. Advanced Study in a Literary Form or Genre 3 cr.
Close study of a topic in a particular literary form or genre. Course subtitled in the Schedule of Classes. May be repeated under different subtitles.

ENGL 423. Advanced Study in a Major Author 3 cr.
Close study of selected works by a major author. Course subtitled in the Schedule of Classes. May be repeated under different subtitles.

ENGL 424. Advanced Study in a Major Text 3 cr.
Close study of a major text. Course subtitled in the Schedule of Classes. May be repeated under different subtitles.

ENGL 425. Advanced Study in Comparative Literature 3 cr.
Close study of a selection of non-English literary works read in translation. English-language works from a similar literary period or genre may also be read. May be repeated under different subtitles.

ENGL 426. Special Topics in Critical Theory 3 cr.
Study of a specific historical or theoretical topic, trend, or movement in Critical Theory. Repeatable under different subtitles.

ENGL 427. Advanced Study in Film and Digital Media 3 cr.
Offers close study of a form or genre, a major figure or style, an historical period or movement, or a major theme or text. Topics vary from semester to semester. May be repeated under different subtitles.

ENGL 428. Drama from the Renaissance to the Restoration 3 cr.
Survey of the major authors, genres, and themes of sixteenth- and seventeenth-century drama in England, with particular emphasis on Renaissance revenge tragedy, marriage comedy, and city comedy, and on Restoration comedy of manners. Restricted to: Main campus only.

ENGL 429. British Romanticism 3 cr.
Intensive study of major writers and critical topics from the Romantic period. Repeatable under different subtitles.

ENGL 430. Technical Editing 3 cr.
Uses workshops, readings, hands-on projects, and discussion to improve skills in gathering, writing, designing, and editing technical information. For students interested in technical communication as well as students interested in developing strengths in communicating in scientific and technical fields.

ENGL 432. Gothic Literature 3 cr.
Intensive study of gothic literature in particular historical, aesthetic, cultural, or intellectual contexts, such as American Gothic, Female Gothic, Dark Romanticism, or Vampire Literature. Repeatable under different subtitles. Restricted to: Main campus only.

ENGL 433. Drama from the Renaissance to the Restoration 3 cr.
Survey of the major authors, genres, and themes of sixteenth- and seventeenth-century drama in England, with particular emphasis on Renaissance revenge tragedy, marriage comedy, and city comedy, and on Restoration comedy of manners. Restricted to: Main campus only.

ENGL 434. Victorian Literature 3 cr.
Intensive study of major writers and critical topics from the Victorian period. Repeatable under different subtitles. Restricted to: Main campus only.

ENGL 435. Advanced Study in Film and Digital Media History and Culture 3 cr.
Offers reading, research, and discussion of advanced problems in history and culture of film and digital media. Topics will vary from semester to semester. May be repeated under different subtitles.

ENGL 436. Advanced Study in Film and Digital Media Theory and Criticism 3 cr.
Course offers reading, research, and discussion of advanced problems in theory and criticism of film and digital media. Topics will vary from semester to semester. May be repeated under different subtitles.

ENGL 437. Literature of the American Renaissance 3 cr.
Intensive study of topics critical to the development of nineteenth-century American literature. Students will be prepared for the Civil War, and the work of authors such as Emerson, Thoreau, Poe, Hawthorne, Melville, Whitman, and Dickinson. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 438. American Realism and Naturalism 3 cr.
Key works of literary realism and naturalism, Civil War to World War One. Course readings vary, but will normally include works of Henry James, Edith Wharton, Willa Cather, Theodore Dreiser, as well as others. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 439. Harlem Renaissance and Modernism 3 cr.
Reading and study of key works of the flowering of African American literature known as the Harlem Renaissance of the 1920s and 1930s. Consideration of the literary context of the Harlem Renaissance, which includes both African American and non-African American writers of the early modern and modern periods. Restricted to: Main campus only.

ENGL 440. American Indian Literatures 3 cr.
Concentrates on the study of literature and cultural production by two or more U.S. ethnic populations. Incorporates both literary and sociocultural readings of texts. Repeatable under different subtitles. Restricted to: Main campus only.

ENGL 441. Postmodern Fiction 3 cr.
Study of the various forms of formally innovative experimental fiction produced since 1945, with a focus on the relationship between literary history and its sociohistorical contexts. Some texts will be read in translation. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 442. American History and Culture 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 443. Modern British Fiction 3 cr.
Study of the fiction produced in the British Isles in the 20th and 21st centuries. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 444. American Indian and Native American Literature 3 cr.
Concentrates on the study of literature and cultural production by two or more U.S. ethnic populations. Incorporates both literary and sociocultural readings of texts. Repeatable under different subtitles. Restricted to: Main campus only.

ENGL 445. Postcolonial Literature and Culture 3 cr.
Study of the transformations of literature and theory produced in the context of decolonization and its aftermath, from the twentieth century to the present. Some texts will be read in translation. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 446. Ethnic Studies in US Literature and Culture 3 cr.
Studies of formal grammar of the English language in preparation for the teaching of the English language and/or advanced linguistic analysis.

ENGL 447. Rhetorical Invention 3 cr.
Various theories and means of invention, including practical applications for the writer.

ENGL 448. Modern and Contemporary American Poetry 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 449. Modern and Contemporary American Fiction 3 cr.
Studies the development of American fiction from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 450. Practicum in the Grammar of American English 3 cr.
Study of the various forms of formally innovative experimental fiction produced since 1945, with a focus on the relationship between literary history and its sociohistorical contexts. Some texts will be read in translation. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 451. History of the English Language 3 cr.
This course examines the history of the English language from its Indo-European origins through its development into an international language. The aim is describing the English language formally and tracing linguistic change over time. Samples of written English will illustrate various stages in the development of English. Also considered are contemporary social and political issues related to language, including the problem of ‘standard English’ and the uses of language in advertising, the media, and politics.

ENGL 452. History of the English Language 3 cr.
This course examines the history of the English language from its Indo-European origins through its development into an international language. The aim is describing the English language formally and tracing linguistic change over time. Samples of written English will illustrate various stages in the development of English. Also considered are contemporary social and political issues related to language, including the problem of ‘standard English’ and the uses of language in advertising, the media, and politics.

ENGL 453. Postcolonial Literature and Culture 3 cr.
Study of the transformations of literature and theory produced in the context of decolonization and its aftermath, from the twentieth century to the present. Some texts will be read in translation. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 454. Postcolonial Literature and Culture 3 cr.
Study of the transformations of literature and theory produced in the context of decolonization and its aftermath, from the twentieth century to the present. Some texts will be read in translation. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 455. Postcolonial Literature and Culture 3 cr.
Study of the transformations of literature and theory produced in the context of decolonization and its aftermath, from the twentieth century to the present. Some texts will be read in translation. Repeatable once under a different subtitle. Restricted to: Main campus only.

Studies of formal grammar of the English language in preparation for the teaching of the English language and/or advanced linguistic analysis.

ENGL 457. American Indian Literatures 3 cr.
Concentrates on the study of literature and cultural production by two or more U.S. ethnic populations. Incorporates both literary and sociocultural readings of texts. Repeatable under different subtitles. Restricted to: Main campus only.

ENGL 458. African American Literature and Culture 3 cr.
Focuses on established and emergent African American literary and cultural production. Incorporates both literary and sociocultural readings of texts. Repeatable once under a different subtitle.

ENGL 459. Black Literature and Culture in the United States 3 cr.
Focuses on established and emergent African American literary and cultural production. Incorporates both literary and sociocultural readings of texts. Repeatable once under a different subtitle.

ENGL 460. Modern and Contemporary American Fiction 3 cr.
Studies the development of American fiction from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 461. Modern and Contemporary American Poetry 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 462. Modern and Contemporary American Fiction 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 463. Modern and Contemporary American Poetry 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 464. Modern and Contemporary American Fiction 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 465. Modern and Contemporary American Poetry 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 466. Modern and Contemporary American Fiction 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 467. Modern and Contemporary American Poetry 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 468. Modern and Contemporary American Fiction 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 469. Modern and Contemporary American Poetry 3 cr.
Studies the development of American poetry from World War I to the present. Repeatable once under a different subtitle. Restricted to: Main campus only.
ENGL 460. Proposal Writing 3 cr.
Developing proposals and grants in a workshop setting.

ENGL 462. Interdisciplinary, Client-Based Project Practicum 3 cr.
Hands-on experience in designing projects within interdisciplinary teams for organizational clients. Taught with ENGL 562.

ENGL 463. Advanced Study in English Literature I 3 cr.
Covers selected works for a particular period of English literary history. Repeatable under different subtitles.

ENGL 465. Intercultural Professional Communication 3 cr.
Examines rhetorical traditions in intercultural profession, technical, academic, and government contexts.

ENGL 466. Writing Arguments 3 cr.
Examines critical thinking and other strategies for structuring effective written arguments in various contexts. Considers classical and contemporary approaches to argument. Valuable for students considering law or professional school.

ENGL 469. Advanced Study in American Literature 3 cr.
Covers selected works for a particular period of American literary history. Repeatable under different subtitles.

ENGL 470. Approaches to Composition 3 cr.
Theory and practice of teaching writing. Discussion and application of classroom practices, definition of standards, and evaluation of student writing.

ENGL 473. Writing Assessment and Evaluation 3 cr.
Theory and practice of writing evaluation and program assessment. Examines pedagogical, political, legal, and policy issues involved in assessment. Same as ENGL 573.

ENGL 478. Document Design 3 cr.
Advanced study in writing, with an emphasis on the computer as a tool for designing visually informative text. Includes theory and research in document design and the use of page composition and graphics software.

ENGL 479. Computers and Writing 3 cr.
Examines how computers change the nature of writing and the teaching of writing.

ENGL 480. Screenwriting II 3 cr.
Students will prepare 30-60 minute screenplays. Script analysis will be in a workshop format. Scripts will be read and discussed, scenes performed and reactions analyzed to consider effect of dialogue, character development, etc. Guest professionals will discuss their experience/expertise. Prerequisite(s): ENGL 309 or CMI 309 or THTR 306 or consent of instructor. Crosslisted with: CMI 480

ENGL 481. Women's Literature 3 cr.
Intensive study of literature by women, in particular historical, aesthetic, cultural, or intellectual contexts. Repeatable under different subtitles. Crosslisted with: WS 484

ENGL 482. Gender and Popular Culture 3 cr.
Intensive study of the representations of gender in popular culture. Examines the historical, aesthetic, and cultural contexts of these representations and the various critical and theoretical lenses we use to understand them. Repeatable under different subtitles. Crosslisted with: WS 482

ENGL 483. Gender and Language 3 cr.
Overview of current and historical approaches to the critical study of gender and language: how gender theoretically manifests in linguistic, social, cultural, academic, and professional texts and contexts.

ENGL 484. Gender and Literature 3 cr.
Intensive study, critical and theoretical, of intersections between literature and gender. Examines representations or constructions of gender in literary discourse, as well as the gendering of literary activity in different cultural contexts. Repeatable under different subtitles.

ENGL 486. Hollywood Film 3 cr.
Intensive study of Hollywood film in its artistic, cultural, or historical contexts. Repeatable under different subtitles.

ENGL 487. Modernist and Experimental Film 3 cr.
Explores the variety of film aesthetics that depart to some degree from the conventions of classical cinema. Focuses on how film form relates to modernist, postmodernist, experimental, and avant-garde tendencies in the arts. Special attention will be paid to the implications of radical formal experimentation for cultural politics, in particular in the context of modern and contemporary history. Repeatable once under a different subtitle.

ENGL 488. Film and Literature 3 cr.
Intensive study of literary and film texts in particular historical, generic, or cultural contexts, such as Film Adaptation, Religion in Literature and Film, or The American West in Fiction and Film. Repeatable under different subtitles.

ENGL 489. Cultural Studies: Literature and Theory 3 cr.
Examines the theory and practice of cultural studies in relation to the variety of discourse describable as literary, including autobiography, avant-garde writing, nonfiction prose, the essay, online writing, folklore, and popular genre fiction (such as mystery, romance, thriller, or horror). Repeatable once under a different subtitle. Restricted to: Main campus only.

ENGL 491. Advanced Screenwriting 3 cr.
Students will prepare a feature-length screenplay. Script analysis will be in an advanced workshop format. Scripts will be read and discussed, scenes performed and reactions analyzed to consider effect of dialogue, character development, etc. Aimed at preparing writers for the professional market. Consent of instructor required. Crosslisted with: CMI 490

ENGL 492. Old English 3 cr.
An introduction to the language, literature, and culture of Anglo-Saxon England, including Beowulf.

ENGL 493. Middle English Textual Cultures 3 cr.
Intensive study of cultures of reading, writing, and literary production in late-medieval England, situating Middle English literature in its manuscript contexts. No prior experience with Middle English required.

ENGL 494. Shakespeare for Educators 3 cr.
In-depth study of selected plays by Shakespeare designed for present and future teachers of literature. Dual emphasis on increasing knowledge of Shakespeare’s plays in context and on developing effective strategies for teaching them.

ENGL 497. Internship 3-6 cr.
Supervised technical and professional communication internship in business, industry, government, or the university. May be repeated for a total of 6 credits. Consent of instructor required. Restricted to: Main campus only.

ENGR 100. Introduction to Engineering 3 cr. (2+3P)
An introduction to the various engineering disciplines, the engineering approach to problem solving, and the design process. Projects emphasize the importance of teamwork, written & oral communication skills, as well as ethical responsibilities.

ENGR 111. Matlab Programming 3 cr.
An introduction to the MATLAB computing environment. Emphasis on basic input/output and the programming skills needed to perform elementary data manipulation and analysis. Prerequisite(s): C S 110.

ENGR 198. Special Topics in Engineering 1-3 cr.
Directed individual study of topics in engineering. Written reports covering work required. Prerequisite: consent of academic dean. May be repeated for a maximum of 6 credits. Restricted to engineering majors. Graded S/U.

ENVE- ENVIRONMENTAL ENGINEERING

ENVE 455. Solid and Hazardous Waste Systems Design 3 cr.
Design of processes and facilities used in the transport, storage, treatment, and disposal of solid and hazardous wastes. Prerequisite: C E 356 or consent of instructor.

ENVE 456. Environmental Engineering Design 3 cr. (2+3P)
Design of chemical, physical and biological operations and processes involved in water and wastewater treatment. Prerequisite: C E 356.

ENVE 462. Sampling and Analysis of Environmental Contaminants 3 cr. (1+6P)
Theory, application, methodology, and instrumentation used in the sampling and analysis of environmental contaminants. Prerequisites: C E 256 and E S 256. Same as E S 462.

ENVE 487. Air Pollution Control Systems Design 3 cr.
An introduction to sources and nature of air pollution, regulations, and risk analysis. Detailed study of air pollution control technologies and design of air pollution control equipment. Prerequisite: senior or graduate standing. Restricted to C E, CH E, or M E majors. Main campus only.

EPWS- ENTOLOGY, PLANT PATHOLOGY AND WEED SCIENCE

EPWS 100. Introduction to Pest Management 3 cr.
Introduction to applied biology including recognition and control of major pest problems of crops, livestock, native vegetation, and homes. One-hour lab is optional.
EPWS 100 L. Pest Management Lab 1 cr. Laboratory to study and observe insect, disease, and weed problems in various agricultural and horticultural environments. Corequisite: EPWS 100.

EPWS 111. Freshmen Orientation 1 cr. Orientation to university life, including available resources and methods to promote success at NMSU. General exposure to fields in agriculture and home economics. Open to all freshmen and transfer students. Graded S/U.

EPWS 200. Special Topics 1-4 cr. Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

EPWS 300. Special Topics 1-4 cr. Specific topics and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

EPWS 301. Agricultural Biotechnology 3 cr. (2+3P) The principles of molecular biology will be introduced and used to explore the past, present, and future applications of biotechnology in agriculture. Specific topics include methodologies for making transgenic plants with increased past resistance, the use of biotechnology in pest detection, and improving nutritional value. The laboratory will provide students with hands-on experience with equipment used for biotechnology research. Prerequisites: CHEM 111G, BIOL 111G, or BIOL 211G.

EPWS 303. Economic Entomology 4 cr. (3+2P) Identification and life cycles of insects of economic significance, their relationship to humans and agriculture including biological interactions and controls. Prerequisite(s): Either BIOL 111G or BIOL 211G.

EPWS 310. Plant Pathology 4 cr. (3+2P) Causes and methods of prevention and treatment of diseases in plants. Prerequisite(s): Either BIOL 111G or BIOL 211G.

EPWS 311. Introduction to Weed Science 4 cr. (3+2P) Principles of weed science, with emphasis on characteristics of invasive plants, methods of integrated weed management, and current issues impacting weed management. Identification of local weeds. Prerequisite(s): Junior standing or consent of instructor; and CHEM 111G, and BIOL 211G. Same as AGRO 311. Crosslisted with: AGRO 311

EPWS 314. Plant Physiology 3 cr. Overview of photosynthesis, respiration, water relations of plants, minerals and organic nutrition, growth and development. Prerequisites: BIOL 211G, CHEM 112G. Same as BIOL 314.

EPWS 314 L. Plant Physiology Lab 2 cr. Examination of and laboratory techniques for measurement of plant-water relations, solute transport, mineral nutrition, photosynthesis, enzyme activity, gene expression, nitrogen metabolism, hormone content and function, and growth/development. Prerequisite: BIOL/EPWS 314 or concurrent enrollment recommended. Same as BIOL 314L.

EPWS 325V. Humans, Insects, and the Environment 3 cr. Overview of the interactions of the world's largest group of organisms with humans. Emphasizing the role of insects in the development of human cultures, including health, food and fiber production, art, music, and environmental issues; with discussions of historic, present-day, and future impacts in underdeveloped, developing, and developed civilizations.

EPWS 373. Fungal Biology 3 cr. (2+2P) Introduction to the taxonomy, morphology, physiology, and ecology of fungi. Prerequisites: EPWS 310 or BIOL 311, or consent of instructor. Same as BIOL 373.

EPWS 380V. Ecosystem Earth: The Impact of Human Activities 3 cr. Analysis and evaluation of how human activities affect the earth's environment or ecosystems. Several examples, from global issues to local issues in the tropics and temperate latitudes, will be studied in detail. World population, agricultural productivity, loss of biodiversity, deforestation, and future prospects for the environment.

EPWS 390. Internship 1-3 cr. Professional work experience under the joint supervision of the employer and a faculty member. A written report is required. Maximum of 3 credits. Prerequisite: consent of instructor. Graded S/U.

EPWS 420. Environmental Fate of Pesticides 3 cr. Mechanisms of pesticide movement, degradation, behaviors, and persistence in soil, water, and plants. Experimental and analytical techniques discussed. Prerequisites: CHEM 211, EPWS 311, EPWS 314.

EPWS 435. Aquatic and Immature Insects 4 cr. (3+3P) Life histories, adaptations, ecology, and identification of immature insects, with emphasis on aquatics. Prerequisite: BIOL 433 or EPWS 303 or consent of instructor.

EPWS 449. Special Problems 1-3 cr. Individual investigation in specific areas of entomology, plant pathology or plant physiology. Maximum of 3 credits per semester and a grand total of 6 credits.

EPWS 451. Special Topics 1-4 cr. Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits. Prerequisite: consent of instructor.


EPWS 455. Advanced Integrated Pest Management 3 cr. Examination of factors affecting the biology and ecology, population evaluations, and control of insect, disease, and weed pests with an emphasis on integrating management practices. Credit cannot be given for both EPWS 455 and EPWS 505. Prerequisite: either EPWS 303, EPWS 310, EPWS 311, or consent of instructor.

EPWS 456. Biological Control 3 cr. Principles of plant and animal suppression using living organisms. Interaction of biological control organisms with biotic and abiotic factors will be stressed. Credit cannot be given for both EPWS 456 and EPWS 506. Prerequisite: introductory course in entomology.

EPWS 462. Parasitology 3 cr. Introduction to classification, biology, ecology and management of the major parasites of human, domestic animals and wildlife.

EPWS 462 L. Parasitology Lab 1 cr. Methods of collecting and identifying the major parasites of humans, domestic animals and wildlife. Concurrent enrollment in EPWS 462 is desirable.

EPWS 471. Plant Mineral Nutrition 3 cr. Same as HORT 471 and AGRO 471.

EPWS 481. Plant Nematology 3 cr. (2+2P) Biology, identification, host-parasite relationship and principles of control of plant parasitic nematodes.


EPWS 491. Insect Physiology 3 cr. Metabolism of carbohydrates, amino acids, lipids, and vitamins. Physiology of development, reproduction, pheromone and sensory reception. Prerequisites: EPWS 303 or BIOL 433, CHEM 211, or consent of instructor.

EPWS 492. Diagnosing Plant Disorders 3 cr. (2+3P) Systematic diagnosis of the physiological, pathological, and entomological causes of plant disorders. Prerequisites: EPWS 303, EPWS 310. Same as AGRO 492 and HORT 492.

FCS- FAMILY AND CHILD SCIENCE

FCS 111. Freshmen Orientation 1 cr. Orientation to university life, including available resources and methods to promote success at NMSU. General exposure to fields in agriculture and home economics. Open to all freshman and transfer students. Graded S/U.

FCS 181. Interpersonal Skills in Intimate Relationships 3 cr. Developing social skills within friendships, dating relationships, marriage, parenting, and families.

FCS 200. Special Topics 1-4 cr. Specific subjects and credits announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

FCS 300. Special Topics 1-4 cr. Specific subjects and credits announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

FCS 330. Personal and Family Finance 3 cr. Principles, processes and procedures involved in effective utilization and management of financial resources to meet the needs of individuals and/or families. Open to nonmajors.

FCS 331. Management of Family Life and Resources 3 cr. Concepts, principles, and processes of management applied to family living and the optimal utilization of family resources. Open to nonmajors.
Consumer issues related to social, political, and economic components of the larger social system. Focuses on consumer rights and responsibilities within the marketplace.

FCSC 335. Human Shelter 3 cr.
Housing and its relationship to human needs. Individual, group, and community interrelated factors shaping needs and values. Open to nonmajors.

FCSC 341. Interior Design 3 cr.
Selection, planning, and arranging of furnishings in the home to meet needs of the family. Open to nonmajors. Prerequisite: ART 101 or ART 110.

FCSC 380. Family Dynamics 3 cr.
The dynamics of family relationships and changes influencing contemporary families. Interaction between the family and other social systems will be examined. Open to nonmajors.

FCSC 381. Middle Childhood Development in the Family 3 cr.
Research and theory relevant to the physical, mental, social, and emotional development of the child from age five to age twelve. Attitudes, knowledge, and skills related to working with school-age children in the family system. Observation in a variety of settings may be required.

FCSC 383. Parenting and Child Guidance 3 cr.
Theories, principles, and skills essential for parents and professionals in guiding children within the family system. Problem prevention techniques are stressed. Prerequisite: either PSY 201G, SOC 101G or C EP 110G or consent of instructor.

FCSC 424. Field Experience: Issues and Ethics 4 cr.
Supervised work experience in community agencies providing services to family systems. Discussion of professional issues and ethical dilemmas. A total of 8 credits must be taken. Consent of instructor required. Prerequisites: either FCSC 380 or equivalent, junior standing, and an overall GPA of at least 2.5 and consent of instructor. Restricted to: Main campus only. Restricted to FCS majors.

FCSC 446. Adolescent Development and the Family 3 cr.
Research and theory relevant to the physical, mental, social, and emotional development of the child from age 12 to age 18. Attitudes, knowledge, and skills related to working with adolescents in the family system. Observation in a variety of settings may be required. Prerequisites: either 6 credits of social science or consent of instructor.

FCSC 447. Infancy and Early Childhood in the Family 3 cr.
Research and theory relevant to prenatal development and the physical, mental, and socio-emotional development of the child from birth to age five. Attitudes, knowledge, and skills needed for working with young children and their families. Prerequisite: either 6 credits of social science or consent of instructor. Open to nonmajors.

FCSC 448. The Aging Family 3 cr.
Research and theory related to the physical, mental, social, and emotional development of older adults. Attitudes, knowledge, and skills related to working with older adults in the family system, including normative, and nonnormative transitions. Prerequisites: either 6 credits of social science and FCSC 380, or consent of instructor.

FCSC 449V. Family Ethnicities and Subcultures 3 cr.
Comparative study of American family subsystems with respect to selected social, economic, and cultural backgrounds. Interaction of these subsystems in American society. Differentiated assignments for graduate students.

FCSC 462. Family Communications 3 cr.
Same as COMM 462, W S 462.

FCSC 492. Special Problems 1-4 cr.
Individual research in a selected subject area of family and consumer sciences. Maximum of 4 credits per semester and a total of 6 credits.

FCSE - FAMILY & CONSUMER SCIENCE EDUCATION

FCSE 111. Freshmen Orientation 1 cr.
Orientation to university life, including available resources and methods to promote success at NMSU. General exposure to fields in agriculture and home economics. Open to all freshmen and transfer students. Graded S/U.

FCSE 300. Special Topics 3 cr.
Specific topics and credits to be announced in the Schedule of Classes. May be taken for a maximum of 3 credits per semester and a total of 9 credits. Restricted to HNFS, FCS, FCSE, CTFM majors.

FCSE 391 H. Junior Honors Seminar 1 cr.
Readings, reports, and discussions of selected topics.

FCSE 400. Research Methods in Family and Consumer Sciences 3 cr.
Introduction to research design and methodology in Family and Consumer Sciences. Overview of common research designs and data collection strategies. Preparations for students to critique published research and perform basic skills including hypotheses development and conducting a literature search. Prerequisite: overall GPA of at least 2.5, junior or senior standing and consent of instructor. Restricted to HNFS, FCS, FCSE, CTFM majors.

FCSE 409 H. Senior Honors Thesis 2 cr.
Limited to undergraduates from FCSE 391H. An independent literary laboratory of field study conducted throughout the student s senior year. Student should register both fall and spring. Prerequisite: FCSE 391H. May be taken for a maximum of 2 credits per semester and a total of 4 credits.

FCSE 425. Senior Seminar in Family and Consumer Sciences 1 cr.
Prepares students for professional roles in family and consumer sciences. Includes cover letters, resumes, interviewing techniques, professionalism, job strategies and preparation and presentation of student portfolios. Prerequisite: senior standing. Restricted to CTFM, FCS, FCSE, HNFS majors. Graded S/U.

FCSE 492. Special Problems 1-4 cr.
Individual research study in a selected subject area of family and consumer sciences. Maximum of 4 credits per semester and 6 credits toward degree.

FCSE- FAMILY & CONSUMER SCIENCE EDUCATION

FCSE 200. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

FCSE 245. Overview of Family and Consumer Sciences Teaching 3 cr.
Overview of planning and teaching skills. Supervised experiences in observing and directing the learning of secondary family and consumer sciences students. Philosophy and history of the profession.

FCSE 300. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

FCSE 346. Management Concepts in Family and Consumer Sciences Teaching 3 cr.
Incorporation and application of management concepts in family and consumer sciences subject matter. Practical experience teaching management and ways to use management skills to plan, implement, and evaluate the teaching-learning transaction.

FCSE 348. Teaching in Informal Family and Consumer Sciences Settings 3 cr.
Learning principles and theories with application in informal family and consumer sciences education situations. Includes supervised experience in use of teaching strategies. Prerequisite: overall GPA of at least 2.5 or consent of instructor.

FCSE 408. Field Experience Extension 1-9 cr.
Experience in program planning and implementation with 4H groups, homemaker groups, and other community groups in extension programs. Practical experience with supervision by resident faculty as well as supervisor at the work site. Performance at work site will be graded in accordance with university standards. Attendance at one weekly class session required. Prerequisite: overall GPA of at least 2.5, C or better in FCSE 446 or consent of instructor. May be repeated for a maximum of 9 credits.

FCSE 445. Vocational Programs for Youth and Adults 3 cr.
History and development of vocational education programs. Ancillary functions of family and consumer sciences teachers. Experiences in extension programs and teaching.

FCSE 446. Teaching Methods I for Family and Consumer Sciences 3 cr.
Objectives, content, and organization of family and consumer sciences curriculum in high schools; materials and methods of teaching. Prerequisites: FCSE 245 and FCSE 345 and an overall GPA of at least 2.5, or consent of instructor. Restricted to majors.

FCSE 447. Teaching Methods II for Family and Consumer Sciences 3 cr.
Planning, preparation, and strategies for teaching family and consumer sciences in the secondary schools. Preparation for employment. Prerequisites: FCSE 245, FCSE 345, FCSE 445, FCSE 446 and an overall GPA of at least 2.5, or consent of instructor. Restricted to majors.

FCSE 448. Supervised Teaching in Family and Consumer Sciences 9 cr.
Seventy (70) days of full-time supervised teaching in selected high schools. Experience in community activities. Prerequisite: FCSE 446, an overall GPA of at least 2.5, and consent of instructor.

FCSE 492. Special Problems 1-4 cr.
Individual research study in a selected subject area of family and consumer sciences. Maximum of 4 credits per semester and 6 credits toward degree.
FIN 206. Introduction to Finance 3 cr.
Theory and techniques of financial management for business firms. Includes application of financial analysis tools and techniques needed for business financial administration and decision making. Prerequisites: either ACCT 202 and ECON 251, or ECON 252 and MATH 115, or consent of instructor. Community Colleges only.

FIN 210. Financial Planning and Investments 3 cr.
Individual financial planning and related financial markets and institutions. Community Colleges only.

FIN 303. Personal Financial Planning and Investing in a Global Economy 3 cr.
Provides a framework for successful personal financial planning within an individual's career and income. Covers personal money management, federal and state taxation, the mathematics of finance and credit, housing, inflation, insurance, savings, and investments. Majors and minors may not use this course to satisfy their finance requirements.

FIN 311. Financial Futures Markets
Same as AG E 311.

FIN 322. Principles of Insurance 3 cr.
Theory and practice of insurance and its economics and social significance; review of the major lines of insurance including life, health, and property liability insurance.

FIN 322. Life/Health/Employer Benefits 3 cr.
Approaches to problems of employee security from the perspective of businesses. Topics including pensions, profit-sharing plans, 401k plans, group life and health plans, and flexible benefit programs. The course also addresses individual life, health, and annuity contracts within a financial planning context. Prerequisite: FIN 322.

FIN 324. Property and Liability Insurance 3 cr.
Analysis of property and liability insurance with emphasis on handling of commercial exposures. Review of property and liability company operations including rate making and insurance accounting. Prerequisite: FIN 322.

FIN 325. Real Estate Principles and Law I 3 cr.
Real estate law and the fundamental aspects of the real estate purchase transaction and the real estate lease agreement. Topics include real estate brokerage, marketing of real estate, fundamental legal aspects of real estate, present and future interests, and air and water rights, methods of transfer, basics of financing and liens, and real estate leases. Same as BLAW 325.

FIN 326. Business Risk Management 3 cr.
The operational risks faced by firms and the study of various methods of handling these risks, including loss prevention, risk retention, self-insurance, corporate insurance programs, and capital markets. Prerequisites: FIN 322.

FIN 341. Financial Analysis and Markets 3 cr.
Financial analysis for business financing and investing decisions. Prerequisites: ACCT 252, ECON 251, ECON 252, MATH 121G or 230, EST 251 or EST 311 or STAT 251G.

FIN 350. Real Estate Principles and Law II 3 cr.
Advanced real estate issues including real estate financial management, legal environment, and government regulation. Topics include real estate financing, mortgage markets, residential ownership issues, commercial real estate investment, commercial leases, real property insurance, real estate development and subdivision law, real property management, and property valuation issues. Prerequisite: BLAW 325 or FIN 325.

FIN 355. Investments 3 cr.
Analysis of investment risks and rewards and of the problems of portfolio selection and management. Operation of the securities market. Prerequisite: FIN 341 or consent of instructor.

FIN 360. Financial Information Technology 3 cr.
Integrated use of electronic financial information resources with spreadsheet and word processing applications in investigating financial issues and solving financial problems. Prerequisites: FIN 341 or consent of instructor.

Analysis of the financial system, emphasizing its institutions and instruments. Prerequisite: FIN 341 or consent of instructor.

FIN 391. Finance Internship and Cooperative Education I 1-3 cr.
Introduction and application of finance principles in a work environment. Open only to students in the finance major or minor who will be working with an approved employer in a finance related position, over a period of 12 weeks or at least 300 work hours. Consent of instructor required.

FIN 392. Insurance Internship and Cooperative Education I 1-3 cr.
Introduction and application of insurance principles in a work environment. Open only to students in the finance major or insurance minor who will be working with an approved employer in an insurance related position, over a period of 12 weeks or at least 300 work hours. Consent of instructor required. Restricted to Finance majors.

Contemporary financial theory. Firm valuation, investments and financing decisions, risk analysis. Prerequisite: FIN 341 or consent of instructor.

FIN 421. Personal Financial Planning for Professionals 3 cr.
Introduction to personal financial planning, including goal setting and fact finding, cash management, credit, housing, retirement planning, taxation and estate planning. This course is intended for those planning careers in personal financial advising in one of the various financial services environments. Prerequisite(s): FIN 341, or consent of Instructor.

FIN 435. Investment Analysis 3 cr.
Efficiency of capital markets, modern portfolio management, special topics of current interest to investment analysts. Prerequisite: FIN 355.

FIN 456. Real Estate Investments and Financing 3 cr.
Basic considerations for real estate investment and financing in local, state, and national markets. Prerequisite: FIN 325 or BLAW 325 or consent of instructor.

FIN 458. Real Estate Valuation 3 cr.
Valuation of residential and commercial properties; factors influencing urban real estate value; the appraisal process; leasehold and business valuation. Prerequisite: FIN 325 or BLAW 325 or consent of instructor.

FIN 466. Financial Policy Decisions 3 cr.
Application and integration of financial theory, concepts, and practice using the case method. Prerequisite: FIN 406 or consent of instructor.

FIN 470. Rural Appraisal 3 cr. (2-2P)
This course addresses issues influencing the value of real estate with some emphasis upon rural properties. Topics include courthouse records, property taxes, appraisal methodology, expert courtroom testimony, condemnation, and legal issues. Students will take field trips and write appraisals. Course material is relevant to student in Finance, Accounting, and Pre-Law, as well as Agriculture. Accredited for hours to apply to both pre-licensing and continuing education requirements of the New Mexico Real Estate Commission for both Appraisers and Real Estate Brokers. Prerequisite(s): Junior or above standing. Crosslisted with: AG E 470.

FIN 475. International Managerial Finance 3 cr.
International aspects of financial transactions, decision-making, banking and financial markets. Prerequisite: FIN 341. Same as I B 475.

FIN 476. Small Business Finance 3 cr.
An introduction to the techniques and methods used in financing a small business. Topics include acquisition of start-up capital, bridge financing, capital sources, project analysis forecasting, and working capital management. Prerequisite: FIN 341.

FIN 480. Management of Financial Institutions 3 cr.
Asset and liability management of financial institutions; emphasis on commercial bank management. Prerequisite: FIN 385 or consent of instructor.

FIN 490. Selected Topics 1-3 cr.
Current topics in finance. Prerequisites: vary according to the seminar being offered.

FIN 491. Finance Internship and Cooperative Education II 1-3 cr.
Advanced application of finance techniques to the work environment. Prerequisite: consent of instructor. Restricted to finance majors.

FIN 498. Independent Study 1-3 cr.
Individual studies directed by consenting faculty with the prior approval of the department head. Prerequisites: junior or above standing and consent of instructor. A maximum of 3 credits may be earned.

FREN- FRENCH

Students may not receive credit for a lower level course which is a prerequisite to a higher level course for which credit has been received or which is being taken for credit. Exceptions must have prior approval of the head of the department.

FREN 111. Elementary French I 4 cr.
French language for beginners.

FREN 112. Elementary French II 4 cr.
French language for beginners. Prerequisite: C or better in FREN 111.

FREN 211. Intermediate French I 3 cr.
Speaking, reading, and writing. Prerequisite: C or better in FREN 112.
FREN 212. Intermediate French II 3 cr.
Speaking, reading, and writing. Prerequisite: C or better in FREN 211.

FREN 301. Readings in French 3 cr.
Experience in reading and appreciation of a wide selection of French texts; a bridge between intermediate and advanced courses and a guide from excersizes to complete works. Prerequisite: FREN 212.

FREN 302. Introduction to Literature 3 cr.
How to read and analyze French literature in all genres. Prerequisite: FREN 212.

FREN 305. Topics in Francophone Civilization 3 cr.
Selected topics focusing on Francophone culture and civilization. Topics identified in the Schedules of Classes. Prerequisite: FREN 212 or consent of instructor. May be repeated for a maximum of 6 credits. Only 3 credits will be accepted from study abroad.

FREN 306. Topics in French Culture and Civilization 3 cr.
Selected topics focusing on French culture and civilization. Topics identified in the Schedule of Classes. May be repeated for a maximum of 6 credits. Prerequisite: FREN 212 or consent of instructor.

FREN 313 Composition and Grammar I 3 cr.
Exercises in written French with emphasis on grammatical features. Prerequisite: FREN 212.

FREN 314 Composition and Grammar II 3 cr.
Advanced exercises in written French with emphasis on grammatical features. Prerequisite: FREN 313.

FREN 320 Oral Practicum in French 1-3 cr.
Service training forfacilitator leading informal conversation groups. May be repeated for a total of 6 credits, only 3 of which may be counted toward the major. Prerequisites: FREN 212 and consent of instructor.

FREN 325 Intermediate Conversation 3 cr.
French conversation through intensive oral practice with emphasis on vocabulary acquisition and pronunciation. Prerequisite: FREN 212 or consent of instructor.

FREN 352 French Phonetics 3 cr.

FREN 360 French Cinema 3 cr.
The evolution of contemporary French cinema. A critical understanding of film as an art form and as cultural expression. Prerequisite: FREN 212 or consent of instructor.

FREN 362 Contemporary French Culture 3 cr.
Institutions, life styles and popular attitudes in modern France. Prerequisite: FREN 212.

FREN 365V Perspectives in French Culture 3 cr.
Examines components of French culture through literature, films, and other sources. Taught in English. Does not satisfy Arts and Sciences language requirement. Does not satisfy French major or minor requirements.

FREN 378 Studies in Francophone Cultures 3 cr.
Studies of representative Francophone cultures through their history, literature, music, and films. Prerequisite: FREN 212.

FREN 381 Survey of French Literature I 3 cr.
Literary movements, authors, and selected texts of the Middle Ages through the eighteenth century. Prerequisite: FREN 212.

FREN 382 Survey of French Literature II 3 cr.
Literary movements, authors, and selected texts of the nineteenth and twentieth centuries. Prerequisite: FREN 212.

FREN 410 Paris: History and Cultures 3 cr.
An in-depth look at history and culture of Paris from its origins to the present. Prerequisite: FREN 212.

FREN 425 Advanced Conversation 3 cr.
Advanced conversation through intensive oral practice. Prerequisite: FREN 212 or consent of instructor.

FREN 440 Creative Writing in French 3 cr.
Development of creative writing skills in French. Prerequisite: FREN 212 or consent of instructor.

FREN 449 Special Problems 1-3 cr.
Directed reading for graduate students in specific field to satisfy language requirement for master’s or doctoral programs.

FREN 451 Special Topics in French 1-3 cr.
Selected topics relating to the cultures or literatures of the countries where French is spoken will be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

FREN 453 Independent Studies in French 1-3 cr.
Individualized, self-paced, projects for advanced students. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

FREN 462 Advanced Contemporary French Culture 3 cr.
Advanced study of institutions, lifestyles and popular attitudes in modern France. Emphasis on everyday life rather than prestigious monuments in civilizations. Prerequisite: FREN 212 or consent of instructor.

FREN 471 The French Novel 3 cr.
Development of the novel and analysis of selected texts with emphasis on the nineteenth and twentieth centuries. Prerequisites: FREN 302 and FREN 382.

FREN 472 The French Short Story 3 cr.
Study and discussion of French short stories through the ages. Prerequisites: FREN 212.

FREN 478 Studies in Francophone Cultures Around the World 3 cr.
Advanced studies of representative Francophone cultures through their history, literature, music, and film. Prerequisite: FREN 305.

FREN 480 Contrastive Stylistics of the French and English Languages 3 cr.
Close analysis of convergences and divergences of the two languages in vocabulary, syntax and style. Initiation to literary translation. Prerequisite: FREN 212 or consent of instructor.

FRMG- FAMILY RESOURCE MANAGEMENT
FRMG 330. Personal and Family Finance 3 cr.
Principles, processes and procedures involved in effective utilization and management of financial resources to meet the needs of individuals and/or families. Open to nonmajors.

FRMG 331. Management of Family Life and Resources 3 cr.
Concepts, principles, and processes of management applied to family living and the optimal utilization of family resources. Open to nonmajors.

Consumer issues related to social, political, and economic components of the larger social system. Focuses on consumer rights and responsibilities within the marketplace.

FRMG 335. Housing and Interior Design 3 cr.
Investigation of types of housing and factors impacting housing decisions for families. Selection, planning, and arrangement of interior components of homes to meet the needs of the family. Prerequisite: ART 101G or ART 110G.

FRMG 450 Special Topics 1-4 cr.
Special subjects and credits to be announced in the Schedule of Classes. May be taken for a maximum of 4 credits per semester and a total of 9 credits toward a degree.

FRMG 492 Special Problems 1-4 cr.
Individual research study in a selected subject area of family and consumer sciences. May be taken for a maximum of 6 credits. Prerequisite: consent of instructor.

G EN- GEOLOGICAL ENGINEERING
G EN 151. Introduction to Geological Engineering 3 cr.
Introduction to basic concepts of geology, earth materials, and earth processes as they relate to civil engineering practice. Corequisite: MATH 191G. Same as C E 151.

G EN 260 Geology for Engineers 3 cr. (2+3P)
Introduction to basic concepts of geology, earth materials and earth processes as they relate to civil engineering practice.

G EN 270. Engineering Geology 3 cr.
Application of geology to the evaluation and solution of engineering problems. Prerequisite: GEOL 111G.

G EN 280 Soil Mechanics 3 cr. (2+3P)
Engineering properties of soil, exploration, testing, strength, and settlement. Prerequisite: C E 301 and GEOL 111G. Same as C E 357.

G EN 451 Subsurface Methods 3 cr. (2+3P)
Design and implementation of shallow geophysical surveys for evaluation of engineering geology problems. Prerequisites: GEOL 111G and GEOL 470.
G EN 452. Geohydrology 3 cr.
Origin, occurrence, and movement of fluids in porous media and assessment of aquifer characteristics. Development and conservation of ground water resources, design of well fields. Prerequisites: GEOG 111G and CE 231. Same as E S 452, and GEOL 452.
G EN 453. Advanced Engineering Geology 3 cr.
Engineering analysis and design as they relate to the geologic site materials and conditions. Prerequisites: G EN 452 and G EN 357.
G EN 456. Project Design 3 cr.
Application of design principles to the solution of engineering geology and geological engineering problems. Prerequisite: G EN 459 or consent of instructor.
G EN 457. Foundation Design 3 cr. (2-3P)
Application of principles of classical soil mechanics to the design and analysis of foundation systems and retaining structures. Prerequisite: G EN 357. Same as CE 457.
G EN 459. Geomechanics and Rock Engineering 3 cr. (2-3P)
Application of rock mechanics principles to the design and construction of structures in and on rock, including design of rock support systems, rock slopes and blasting/excavation techniques. Prerequisite: G EN 453.
G EN 460. Site Investigation 2 cr.
Investigation and characterization of surficial and subsurface geologic materials and ground water. Includes exploration program planning, drilling and sampling, rock and soil classification and logging, ground-water monitoring, preparation of geological engineering reports. G EN majors may enroll in junior year. Extra work required for graduate credit. Prerequisites: G EN 357, G EN 452, and GEOL 470.
Solid waste and application of geological engineering principles and methods to the site selection and design of municipal and hazardous waste landfills. Prerequisites: G EN 357 and G EN 452, or consent of instructor.
G EN 485. Earthen Dam Design 3 cr.
Engineering design applied to site selection, foundation inspection and treatment, hydrology and hydraulics, stability, and seepage analysis. Economic and environmental factors. Prerequisites: CE 231 and G EN 357. Same as CE 485.
G EN 497. Senior Seminar 1 cr.
Same as CE 497.
G EN 498. Special Topics 1-3 cr.
Class, laboratory or field study of selected topics in geological engineering. Prerequisite: consent of instructor. May be repeated for a maximum of 9 credits.

GENE-GENETICS
GENE 110. Experimental Systems in Genetics 1 cr.
Survey of molecular, biochemical, organismal, and computer science based approaches to investigate how genes determine important traits. Historical development and topics of current interest will be discussed.
GENE 305 L. Genetic Techniques 1 cr. (SP)
Experimental procedures used in genetic research including: sexual transmission genetics, eukaryotic DNA isolation, DNA marker development and genotyping, polymerase chain reaction, and cytogenetics. Pre/Corequisite(s): GENE 315, or AGRO/ANSC/BIOL/HORT 305.
GENE 315. Molecular Genetics 3 cr.
Covers fundamental principles of DNA structure and replication, transcription, translation, gene regulation, recombinant DNA technology, and a survey of genomics and bioinformatics.
GENE 320. Heredity and Population Genetics 3 cr.
Covers fundamental principles of reproduction, variation, and heredity in plants and animals including: Mendelian inheritance, mitosis, meiosis, genetic linkage, random mating, genetic drift, natural selection, inbreeding, migration, mutation, interrelationships between individuals, populations and communities and the environment. Prerequisites: CHEM 111G, BIOL 111, BIOL 211.
GENE 440. Genetics Seminar 1 cr.
Organization, preparation, and presentation of genetic studies in model microorganisms, plant, or animal systems that have been used to solve problems in molecular, cellular, and developmental biology.

GENE 452. Applied Bioinformatics 3 cr.
Survey and application of publicly available bioinformatic tools that treat genomic DNA, cDNA, and protein sequences, RNA abundance, as well as tools that allow inference based on phylogenetic relationships. Prerequisites: AGRO/ANSC/BIOL/HORT 305 or GENE 315 and GENE 320, and BCHE 341, or BCHE 395.
GENE 486. Genes and Genomes 3 cr.
Extensive coverage of nuclear and organelle genome structure in plants and animals, genome restructuring including duplication, aneuploidy, chromosome translocations and inversions, comparative genomics, and molecular systematics. Prerequisites: AGRO/ANSC/BIOL/HORT 305 or GENE 315, and GENE 320.
GENE 488. Gene Regulation 3 cr.
Extensive coverage of signal transduction processes and approaches used to monitor large scale changes in gene regulation and protein synthesis that occur during development and in response to environmental changes. Prerequisites: AGRO/ANSC/BIOL/HORT 305 or GENE 315.

GEOG-GEOGRAPHY
GEOG 109. The Atmosphere and Hydrosphere 3 cr. (2-3P)
Introduction to physical forces that shape the environment: Earth geometry and seasons; the atmosphere; components of weather and climate. Completion of both GEOG 109 and GEOG 110 will substitute for GEOG 111G. Community Colleges only.
GEOG 110. The Biosphere and Lithosphere 3 cr. (2-3P)
Introduction to physical forces that shape the environment: unique spatial characteristics of flora and fauna; soil development and classification; geomorphic processes and landform development. Completion of both GEOG 109 and GEOG 110 will substitute for GEOG 111G. Community Colleges only.
GEOG 111G. Geography of the Natural Environment 4 cr. (3-3P)
Introduction to the physical processes that shape the human environment: climate and weather, vegetation dynamics and distribution, soil development and classification, and geomorphic processes and landform development.
GEOG 112G. World Regional Geography 3 cr.
Overview of the physical geography, natural resources, cultural landscapes, and current problems of the world’s major regions. Students will also examine current events at a variety of geographic scales.
GEOG 120G. Culture and Environment 3 cr.
Study of human-environmental relationships: how the earth works and how cultures impact or conserve nature. Introduction to relationships between people and natural resources, ecosystems, global climate change, pollution, and conservation.
GEOG 157. Introduction to Weather Science 4 cr. (3-3P)
Introduction to Earth’s atmosphere and the dynamic world of weather as it happens. Working with current meteorological data delivered via the Internet and coordinated with learning investigations keyed to the current weather; and via study of selected archived real-world meteorological data. Prerequisites: CS 110G or concurrency and ENGL 111G or concurrency.
GEOG 205. Local Geography 3 cr.
Examination of interrelationships and spatial arrangements of landforms, climate, ecology and the human imprints of the local area. Community Colleges only.
GEOG 210. Orienteering 2 cr.
Map and compass navigation. Verification of correct navigation takes place by the use of encoded control points on the route. Same as PE 210.
GEOG 257. Introduction to Meteorology 3 cr. (2-3P)
Basic meteorological processes. Atmospheric structure and circulation, radiation, fronts, pressure systems, precipitation mechanisms, forecasting, weather maps, meteorological instrumentation. Prerequisite: MATH 115. Same as SOIL 257.
GEOG 259. Introduction to Oceanography 4 cr. (3-3P)
Introduces the origin and development of the ocean and marine ecological concepts. Examines physical processes such as waves, tides, and currents and their impact on shorelines, the ocean floor, and basins. Investigates physical processes as they relate to oceanographic concepts. Includes media via the Internet and laboratory examination of current oceanic data as an alternative to the actual oceanic experience. Students will gain a basic knowledge and appreciation of the ocean’s impact on the world’s ecology. Prerequisites: CS 110G or concurrency and ENGL 111G or concurrency.
GEOG 281. Map Use and Analysis 3 cr. (2-3P)
Introduction to map use and analysis. Emphasis on physical and cultural features.
GEOG 295. Environmental Geography 4 cr. (3+3P)
Examines the man-environment interface, detrimental effects on the environment, lessons learned, and theoretical measures. Prerequisites: CS 110G or concurrency and ENGL 111G or concurrency.

GEOG 315V. World Agriculture and Food Problems 3 cr.
Same as AG E 315V.

GEOG 317. Rangeland Communities 2 cr.
Same as RGSC 317.

GEOG 324. Wine Regions of the World 3 cr. (2+3P)
The wine regions of the world and their climate, topography, and economic impacts. Wine products are examined and evaluated. Prerequisite: proof of age (21 years old and older).

GEOG 325V. New Mexico and the American West 3 cr.
Examination of the cultural and historical patterns, economic activities and physical characteristics of New Mexico with comparisons made with other western states.

GEOG 326. U.S. National Parks 3 cr.
Exploration of origins, landscapes, ecosystems, management issues, and conflicts in U.S. National Parks. The regional geography of the United States as seen through the creation and protection of biologically and culturally significant lands.

GEOG 327. Australia 3 cr.
Introduction to physical, cultural, and economic geography of Australia.

GEOG 328V. Geography of Latin America 3 cr.
Explores Latin America from a geographical perspective, integrating environmental, cultural and socioeconomic factors in an in-depth study of the development of the region.

GEOG 331V. Europe 3 cr.
Focus on the cultural continent of Europe, from Iceland to the Ural Mountains and from Archangel, U.S.S.R., to Malta. An overview of climate, geology, topography, soils, and vegetation, as well as a brief historical geography of the continent. Current environmental, social, and political issues of Europe will be discussed. A series of regional studies is also offered.

GEOG 351. Fundamentals of Biogeography 3 cr.
Floristic and physiognomic characteristics of the Earth’s major ecosystems and their distributions; ecosystem dynamics, evolution, and physical environment; field and laboratory techniques including remote sensing.

GEOG 353. Geomorphology 3 cr. (2+3P)
Endogenic and exogenic processes that shape the Earth’s surface. Emphasis on origin and evolution of landforms. Prerequisite: GEOG 111G and GEOG 111G. Same as GEO 353.

GEOG 357. Climatology 3 cr.
Elements and controls of climate. Energy and hydrologic cycles, general circulation, climate classification, distribution of climate types, microscale effects, applications. Prerequisites: MATH 120. Same as AGRO 357, SOIL 357.

GEOG 361V. Economic Geography 3 cr.
The geographic relationships of supply and demand resources, population, and transportation. Site analysis and decision-making in different economic systems and cultures and how these decisions affect the environment and the location of economic activities.

GEOG 362. Geography of International Development 3 cr.
Comparative analysis of international patterns of socioeconomic development, with specific consideration of theories of development in the context of economic globalization.

GEOG 363V. Cultural Geography 3 cr.
The world’s diverse cultural landscapes. Emphasis on the connections between social, political, religious, and agricultural patterns and the impact of societies on the natural environment.

GEOG 365V. Urban Geography 3 cr.
The global historical development of urban areas, as well as the changing functions of today’s cities. A comparison between the North American city system and cities in Europe, Asia, and South America, including the development of the city form, the internal spatial organization of commercial, residential, and industrial areas, and the socio-economic and political factors.

GEOG 374V. The European City: History and Culture 3 cr.
Course presents the rich, complex history and cultures of European cities from ancient to modern times, linking these cities to crucial issues in European history.

GEOG 381. Cartography and Geographic Information Systems 3 cr. (2+3P)
Design and construction of thematic maps and physiographic diagrams. Emphasis on maps as analytical tools in geography and planning.

GEOG 382. Aerial Photo Interpretation 3 cr. (2+3P)
Introduction to use and analysis of aerial photographs. Emphasis on physical features and cultural patterns.

GEOG 453. Fluid and Environmental Geomorphology 3 cr. (2+3P)
An analysis of drainage basins, channel patterns, and channel geometry, and an assessment of man’s impact on river regimes. Prerequisite: GEOG 353/GEOL 353 or consent of instructor. Same as GEOL 453.

GEOG 461. U.S. Mexico Border Development 3 cr.
Analysis of the socioeconomic development of the U.S.-Mexican border region, including perspectives and issues from both sides of the border. Opportunities for individualized study of contemporary issues in the region. Prerequisite: GEOG 361 or consent of instructor.

GEOG 466. Land Use and Land Rent 3 cr.
Techniques of land use analysis including those used to determine current and future land uses.

GEOG 467. Transportation Geography 3 cr.
Nature and distribution of land, air and water transport facilities and their importance in regional development. Prerequisite: GEOG 120G or consent of instructor.

GEOG 472. Soil Morphology and Classification 4 cr. (2+2P)
Same as SOIL 472.

GEOG 477. Soil Physics 3 cr. (2+2P)
Same as SOIL 477.

GEOG 481. Fundamentals of Geographic Information Systems 4 cr. (3+3P)
Fundamentals of computer-based systems which organize, analyze, and present spatially referenced data. Prerequisite: GEOG 281 or GEOG 381.

GEOG 482. Digital Image Processing 3 cr. (2+2P)
Analysis of digital images produced from multi-spectral scanners or conversion of aerial photographs. Prerequisite: GEOG 382.

GEOG 483. Field Explorations in Geography 3 cr. (6P)
A field-based class where students complete exercises in physical, cultural, and environmental geography in the Southwest. May be offered as a two-week intensive class where students are away from Las Cruces and camping; or may be offered with weekend field trips depending on the instructor. A lab fee for transportation and other expenses is required. Prerequisite(s): Geography 281, physical geography class, human geography class, or equivalents, or consent of instructor. Restricted to: Main campus only.

GEOG 487. GIS Practicum 3 cr. (2+3P)
Practical experience and problem solving with specific GIS software. Software may change from semester to semester. Prerequisites: GEOG 281 and one of the following: GEOG 381, GEOG 481, or GEOG 482.

GEOG 491. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

GEOG 493. Special Problem Research 1-3 cr.
For advanced and exceptional students. Research, and preparation of a paper in some phase of geography. A maximum of 6 credits may be earned. Prerequisite: consent of instructor.

GEOG 495. Directed Readings 1-3 cr.
Individual study through selected readings. A maximum of 6 credits may be earned. Prerequisite: consent of instructor.

GEOG- GEOLOGY

GEOL 111G. Survey of Geology 4 cr. (3+3P)
Covers the fundamental principles of physical geology, including the origin of minerals and rocks, geologic time, rock deformation, and plate tectonics.

GEOL 205. Geology of Landforms 3 cr.
Examination of local landforms and their evolution; hydrology, lithology and volcanic activity of the local area. Emphasis on observation and geological interpretation. Community Colleges only.

GEOL 212G. The Dynamic Earth 4 cr. (3+3P)
Introduction to earth systems. Geology and the solid earth, geologic time and earth history, water and the world oceans, atmosphere and weather, the solar system. Community Colleges only.
GEOL 216. Geology of the Colorado Plateau 3 cr.
Seminar style investigation of the geologic history of the Colorado Plateau, culminating in a 10-day field trip to choose geologic localities in Arizona and Utah. Preference given to freshmen and sophomores. Prerequisite: GEOL 111G.

GEOL 220. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. Community Colleges only. May be repeated for a maximum of 12 credits.

GEOL 295. Environmental Geology 3 cr.
Earth processes that affect humans and their works, properties of rocks and soils, and use and application of environmental geologic data.

GEOL 297. Historical Geology 3 cr. (2+3P)
Rocks of the earth and the life records from a chronological approach. Prerequisite: GEOL 111G or consent of instructor.

GEOL 305V. Fossils and the Evolution of Life 3 cr.
Examination of the fossil record within the context of geologic time. Special emphasis on critical evaluation of possible terrestrial and extra-terrestrial causes for the evolution of plants and animals and for periods of mass extinction. May not be taken for credit in major of Geology by those who have taken GEOL 297.

GEOL 310. Mineralogy 3 cr. (2+3P)
Crystallography and the physical and chemical aspects of minerals. Prerequisites: GEOL 111G and CHEM 111G, or consent of instructor.

GEOL 312. Optical Mineralogy 3 cr. (2+3P)
Principles of optical mineralogy as applied to the identification and characterization of rock-forming minerals. Prerequisite or Corequisite: GEOL 310.

GEOL 315VG. The Geology of National Parks 3 cr.
The geologic features in national parks of the United States and the processes responsible for their formation. Prerequisite: consent of instructor, necessary for geography majors.

GEOL 320. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

GEOL 335V. Earthquakes, Volcanoes, Hurricanes, and Floods: The Role of Natural Hazards in Civ Past and Present 3 cr.
The role of natural hazards in human history, with emphasis on events since the Holocene. Prerequisite: GEOL 111G.

GEOL 340. Geochemistry 3 cr.
The chemical evolution of Earth, the solar system, and extraterrestrial materials. Prerequisite: CHEM 112G. Same as CHEM 360.

GEOL 353. Geomorphology 3 cr.
The science of landform evolution. Prerequisite: GEOL 310 for majors other than geology.

GEOL 356. General Geochemistry 3 cr.
The chemistry of the earth and its parts, with emphasis on geochemical systems and cycles, distribution of the elements, and mineral equilibria. Prerequisite: CHEM 112G. Same as CHEM 360.

GEOL 359. Igneous and Metamorphic Petrology 3 cr. (2+3P)
Mineralogical composition, classification, and genesis of igneous and metamorphic rocks. Prerequisite(s): GEOL 312 for geology majors, GEOL 310 for majors other than geology.

GEOL 401. Geology Colloquium 1 cr.
Presentations by visiting speakers and students.

GEOL 410. Tutorial Geology 2 cr. (1+3P)
Participation in teaching lower-division laboratories and conducting tutorial sessions. Prerequisite: junior or above standing and nomination by faculty. May be repeated for a total of 4 credits.

GEOL 411. Geologic Map Interpretation 3 cr.
Geology of the Colorado Plateau 3 cr.
Seminar style investigation of the geologic history of the Colorado Plateau, culminating in a 10-day field trip to choose geologic localities in Arizona and Utah. Preference given to freshmen and sophomores. Prerequisite: GEOL 111G.

GEOL 411. Geologic Map Interpretation 3 cr.
Geology of the Colorado Plateau 3 cr.
Seminar style investigation of the geologic history of the Colorado Plateau, culminating in a 10-day field trip to choose geologic localities in Arizona and Utah. Preference given to freshmen and sophomores. Prerequisite: GEOL 111G.

GEOL 412. Environment and Geology 3 cr.
Mapping, instrumentation, and interpretation of geology in the field. Prerequisite: GEOL 411.

GEOL 415. Archean through Holocene time, emphasizing the use of regional stratigraphy and structural geology to interpret mountain building, magmatism, and basin development. Prerequisites: GEOL 111G, GEOL 355, GEOL 402, and GEOL 470.

GEOL 420. Stratigraphy and Sedimentology 3 cr. (2+3P)
Identification and interpretation of sedimentary rocks with emphasis on classification, deposition, and stratigraphy. Prerequisite: GEOL 310.

GEOL 424. Soil Chemistry 3 cr.
Same as SOIL 424, CHEM 424.

GEOL 425. Environmental Geomorphology 3 cr. (2+3P)
Geological research and field projects for the advanced student. May be repeated for a total of 6 credits. Prerequisite: consent of instructor.

GEOL 427. Special Problems 1-3 cr.
Selected advanced topics of current interest or importance. May be repeated for a total of 6 credits. Prerequisite: consent of instructor.

GEOL 428. Petroleum Geology 3 cr. (2+3P)
Stratigraphy, tectonics, and sedimentation in relation to occurrence of and exploration for hydrocarbons. Prerequisite: GEOL 420.

GEOL 429. Environmental Soil Chemistry 3 cr.
Introduction to soil formation and pedogenesis. Prerequisites: GEOL 310 and consent of instructor.

GEOL 430. Advanced Stratigraphic Concepts 3 cr.
Geometry and origin of strata, emphasizing techniques for correlation and interpretation. Prerequisite: GEOL 420 or equivalent.

GEOL 455. Applied Geology 1-3 cr.
Geological research and field projects for the advanced student. May be repeated for a total of 6 credits. Prerequisite: consent of instructor.

GEOL 456. Isotope Geochronology 3 cr.
Geochronology of stable and radiogenic isotopes and its application to a wide range of problems in the earth and planetary sciences. Prerequisite(s): CHEM 112G, GEOL 360, GEOL 399.

GEOL 470. Structural Geology 3 cr. (2+3P)
Study of rocks of the earth. Prerequisite: GEOL 310.

GEOL 474. Ground Water Geology 3 cr.
Steady-state and transient ground-water flow in porous media: effects of lithology on hydrologic characteristics of aquifers and confining units; Darcy’s Law applied to steady-state flow; distribution of hydraulic head in confined and unconfined aquifers; recharge and discharge in regional and local ground-water flow systems; ground-water surface-water interaction; steady-state and transient flow to wells; aquifer testing and evaluation of safe yields. Introduction to numerical flow modeling. Prerequisite: GEOL 111G.

GER-GERMAN

GER 101. Conversational German 3 cr.
Word-recognition approach to conversational German, without formal grammar instruction. May not be used toward fulfillment of foreign language requirement. Community Colleges only.

GER 111. Elementary German I 4 cr.
German for beginners. Stress on speaking skills.

GER 112. Elementary German II 4 cr.
German for beginners and students with one year of high school German. Stress on speaking skills. Prerequisite: C or better in GER 111.

GER 211. Intermediate German I 3 cr.
Speaking, reading, and writing. Prerequisite: C or better in GER 112.
GER 212. Intermediate German II
Speaking, reading, and writing. Prerequisite: C or better in GER 211. 3 cr.

GER 205. Topics in German Culture
Group study of selected topics focusing on German-language culture (including Austria and Switzerland). Topics identified in the Schedule of Classes. Prerequisite: GER 212 or high school German III. May be repeated for a maximum of 6 credits. 3 cr.

GER 313. Intermediate Composition and Grammar
Exercises in written German with emphasis on advanced grammatical features. Preparation for Zertifikat Deutsch. Prerequisite: GER 212, or high school German 3, or consent of instructor. 3 cr.

GER 325. German Conversation I
Spoken German with emphasis on everyday situations. Prerequisite: GER 212, or high school German 3, or consent of instructor. 3 cr.

GER 331. German Lyric Poetry
Seminar. Lyric poetry from Minnesang to contemporary poetry. Prerequisite: either GER 313, GER 325, or GER 343, or consent of instructor. 3 cr.

GER 332V. German Culture through Cinema
Events, values, and issues in German culture as reflected in motion pictures made in Germany between 1913 and 1990. Familiarization with cinema as art form. Taught in English. Does not satisfy Arts and Sciences second language requirement. 3 cr.

GER 341. German Folklore and Culture
Customs, traditions, mythology, folk literature and art; everyday culture of German-speaking Europe. Prerequisite: GER 212 or equivalent or consent of instructor. 3 cr.

GER 343. Building Reading Skills
Practice in improving reading skills with a wide variety of texts. Discussion in German also enhances oral skills. Prerequisite: GER 212 or high school German 3, or consent of instructor. 3 cr.

GER 345. Business German
Covers business life and practices in German-speaking Europe and prevalent commercial and trade language. Prerequisite: GER 212 or consent of instructor. 3 cr.

GER 362. German Studies
Geography, demography, institutions, lifestyles, popular attitudes, issues, and problems in modern Germany. Special emphasis on events leading to the 1990 unification. 3 cr.

GER 363. German Studies: Austria and Switzerland
Geography, demography, institutions, life-styles, popular attitudes, issues, and problems in modern Austria and Switzerland, with historical overview. 3 cr.

GER 371. German Short Story
Short prose literature. Emphasis on nineteenth and twentieth century short story. Prerequisite: GER 313 or GER 325 or GER 343 or consent of instructor. 3 cr.

GER 391. History of the German Language
Seminar. Development of the German language from its origins. Prerequisite: any course above GER 212 or consent of instructor. 3 cr.

GER 410. Practicum in Conversational German
Intensive oral practice as language monitor. Prerequisite: two upper division German courses or consent of instructor. May be repeated for a maximum of 6 credits. 1-3 cr.

GER 413. Advanced Composition and Grammar
Exercises in written German with emphasis on stylistic features. Prerequisite: GER 313 or consent of instructor. 3 cr.

GER 425. German Conversation III
Spoken German for advanced students, covering a wide range of topics. Prerequisite: GER 326 or consent of instructor. 3 cr.

GER 449. Special Problems
Directed reading for graduate students in their specific fields to satisfy language requirements for master's or doctoral programs. May be repeated for a maximum of 6 credits. 1-3 cr.

GER 451. Special Topics in German
Selected topics in German language, literature, or area studies, announced in Schedule of Classes. May be repeated for credit when topic changes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits. 1-3 cr.

GER 453. Independent Studies in German
Individualized, self-paced projects, for advanced students. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. 1-3 cr.

GER 466. Theatre Workshop in German
Seminar. Practical exercise in dramatic interpretation, also play production. Prerequisite: GER 212 or consent of instructor. May be repeated for a total of 6 credits. 3 cr.

GER-GERONTOLOGY

GERO 415. Introduction to Gerontology
Social, psychological, and physiological aspects of aging, with an interdisciplinary emphasis on health promotion. Demographic characteristics of the aging population. Taught with MPH 515. 3 cr.

GERO 450. Health Promotion for the Older Adult
Common health concerns and lifestyle issues relevant to older adults. Facts about the content area, health behaviors, and practices to promote health and prevent disease; program development strategies applicable to a variety of settings. Same as MPH 557. 3 cr.

GERO 451. Aging and Public Policy
Exploration of public policies relating to elders, historical development, current status and trends in public policy for this age group. Impact of political behavior of elders on policy making and implementing processes. 3 cr.

GERO 452. Program Development in Aging
Planning and evaluating programs for the elderly in a variety of community and institutional settings. Needs assessment, resource identification, program design, and evaluation. Prerequisite: GERO 301. 3 cr.

GERO 455. Research Methods in Aging
Introduction to research methods in aging and techniques applicable to midlife and older populations. Specific focus on design and implementation of a research project, and specific research methodology. 3 cr.

GERO 456. Biological Aspects of Aging
Aging, the developmental process of the body determined by cellular changes influenced by lifestyle, genetics, and environment. Investigates these changes, how health promotion influences them, and when they are considered a disease. Same as MPH 556. 3 cr.

GERO 490. Gerontology Practicum
Supervised experiential learning in an organization that serves older adults. Prerequisite: GERO 452. 1-6 cr.

GERO 493. Adulthood and Aging
Normal transitions in later life; those occurring from 40 years of age to the end of life are discussed. Changes in interpersonal relationships and adaptations commonly made by individuals and meeting those alterations are presented through research findings, case studies, and autobiographies. Same as MPH 593. 3 cr.

GERO 494. Aging in a Multicultural Society
Study and comparison of aging in the southwestern multicultural society with emphasis on health care. Same as MPH 594. 3 cr.

GERO 495. International Aging and Intellectual Disabilities
Graduate course for policy planners and staff trainers working in the field of Intellectual Disabilities. The course content will be relevant to service provision in developed and developing countries with emphasis on diverse cultures. The consequences of increased longevity for both social and health provision and family careers are covered. 3 cr.

GERO 497. Special Topics in Gerontology
Specific topics of current interest in gerontology to be announced in the Schedule of Classes. Prerequisite: junior standing or consent of instructor. 1-3 cr.

GERO 498. Independent Study
Individual studies with prior approval of health science department head. Prerequisite: senior standing and consent of instructor. May be repeated for a maximum of 6 credits. 1-3 cr.

GOVT- GOVERNMENT

GOVT 100G. American National Government
U.S. constitutional system; legislative, executive and judicial processes; popular and group influence. 3 cr.

GOVT 110G. Introduction to Political Science
This class covers fundamental concepts such as justice, sovereignty and power; political theories and ideologies; and government systems that range from democratic to authoritarian. 3 cr.

GOVT 150G. American Political Issues
Major contemporary problems of American society and their political implications. 3 cr.

GOVT 160G. International Political Issues
Current developments and issues in world politics. 3 cr.

GOVT 201. Special Topics
Specific topics to be announced in Schedule of Classes. Community Colleges only. May be repeated for a maximum of 12 credits. 3 cr.

GOVT 213. Introduction to Model United Nations
Simulations for freshman and sophomore level students. Prerequisite: consent of instructor. 3 cr.
GOVT 300. Political Research Skills 3 cr.
Introduction to methods of political analysis and fundamentals of research
design, including basic methods for the collection and analysis of political
data.

GOVT 305. Directed Readings 1-3 cr.
Individualized readings. Course subtitled. Prerequisite: Consent of instruc-
tor. May be repeated for a maximum of 6 credits.

GOVT 306. Independent Study 1-3 cr.
Individualized research. Course subtitled. Prerequisite: Consent of instruc-
tor. May be repeated for a maximum of 6 credits.

GOVT 308. Prepping for Law School Admissions Test 1 cr.
This workshop helps students prepare to take the Law School Admissions Test and apply for law school.

GOVT 310. Internship 1-12 cr.
Hands-on experience working with public agencies, political campaigns,
elected officials & non-profits. May be repeated for a maximum of 12 cred-
its; only 3 credits apply toward government major or minor requirements.
Consent of instructor required. Graded: S/U. Prerequisite(s): Completion of 12 government credits, 2.5 GPA, junior and above standing. Restricted to: Main campus only.

GOVT 312. Practicum in Student Government 3 cr.
Research of issues in student government. Prerequisites: Student govern-
ment participation, completion of 12 GOVT credits, junior or senior stand-
ing, and consent of instructor. Graded S/U.

GOVT 313. Model United Nations 3 cr.
Issues related to the United Nations and international law/organizations
through simulations, discussions and research projects. Prerequisites:
GPA of 2.5 or better and consent of instructor.

GOVT 314. Advanced Model UN 3 cr.
Advanced topics, research and preparation for Model United Nations
activities. Consent of instructor required. Prerequisite(s): GOVT 313, mini-
um GPA 2.5. Restricted to: Main campus only.

GOVT 315. Politics and Film 3 cr.
Exploration of political themes, images, and representation in film and
other media. May be repeated for a maximum of 6 credits under different
subtitles.

GOVT 320. Domestic Policy 3 cr.
The course examines how U.S. public policy is made, including the players,
politics, issues and power critical to the policy process. An interactive
class that bridges theory and political action. Restricted to: Main campus only.

GOVT 321. Topics in Public Policy 3 cr.
Course examines issues in public policy. May be repeated under different
subtitles.

GOVT 324. Environmental Policy 3 cr.
This introductory course explores environmental policy issues. Students
study perspectives of policy-makers, political activists and policy analysts,
and apply policy models to solve pressing environmental problems. Focus
may be on U.S. or global concerns.

GOVT 330. Introduction to Public Administration 3 cr.
What is public administration? Course examines public service, focusing
on federal and state government. Issues include management and leader-
ship, personnel, bureaucratic politics, organizational theory, personnel,
budgeting and administrative law. Restricted to: Main campus only.

GOVT 331. Special Topics in Public Administration 3 cr.
Special topics in public administration. May be repeated for a maximum of
6 credits under different subtitles.

GOVT 335. Management of Nonprofit Organizations 3 cr.
This course provides an overview of a range of nonprofit management
concerns and practices. Students will be challenged to assess their own
theories of nonprofit accountability and excellence, while confronting
critical issues facing the sector. Activities are designed to expand the man-
gagement skills of students by offering analytical tools and knowledge, and
providing opportunities to test the application of these skills.


GOVT 341. Special Topics: American Politics 3 cr.
Course examines contemporary issues and trends in American govern-
ment and politics. May be repeated under different subtitles.

GOVT 343. Congress and the Legislative Process 3 cr.
This class reviews the history, structure, membership, operation, power
and culture of the American Congress. Restricted to: Main campus only.

GOVT 344. The American Presidency 3 cr.
A comprehensive overview of the U.S. presidency, including powers,
electoral politics, decision-making styles, domestic and foreign policy, and
relations with Congress, courts, media and interest groups.

GOVT 345. The Supreme Court 3 cr.
This class studies the history and operation of the Supreme Court, as well as landmark cases that have shaped American government and the Court.

GOVT 350. Special Topics in American Government 3 cr.
Special topics in American government. May be repeated for a maximum of
6 credits under different subtitles.

GOVT 351. Campaigns and Elections 3 cr.
Dynamics of campaigns and electoral politics, and their relationship to the
formulation of public policy.

GOVT 352. Campaign Strategies and Techniques 3 cr.
Emphasis on the practice of political campaigns, including targeting, media, polling, and other campaign techniques and strategies.

GOVT 353. Women, Politics and Administration 3 cr.
An examination of women’s participation in U.S. electoral politics as voters, candidates, and officeholders; political activism in issue-based movements and strategies for affecting public policy, leadership as administrators and managers in public service agencies. Also explores the influence of femi-
nism in changing women’s roles socially, legally, and politically.

GOVT 354. American Indian Politics 3 cr.
Introduction to American Indian tribal governments, politics, policy, and
administration; historical and contemporary leadership of Indian Nations;
and the history and current status of American Indian-U.S. relations. Stu-
dents learn about Native peoples’ cultural responses, forms of resistance,
and adaptations to colonization. Restricted to: Main campus only.

GOVT 356. American Foreign Policy 3 cr.
Evolution of U.S. national security policy; problems in defining national
interests and related allocation of resources.

GOVT 357. Terrorism 3 cr.
An introductory course using an interdisciplinary framework to explore
definitions, historical roots, contemporary manifestations and future trends
in political terrorism.

GOVT 358. Fundamentals of Intelligence Studies 3 cr.
Introductory survey of the major theoretical approaches and substantive
issues in intelligence studies.

Same as HIST 377.

GOVT 370. Comparative Politics 3 cr.
Introduction to functional approaches to comparing similarities and differ-
ences among political systems.

GOVT 371. Latin American Politics 3 cr.
Basic structure of politics in major Latin American countries; role of
groups, including church, labor, and parties.

GOVT 372. Special Topics in Comparative Politics 3 cr.
Course examines contemporary issues in comparative politics. May be
repeated under different subtitles. Restricted to: Main campus only.
GOVT 372. Resistance Movements in World Politics 3 cr.
Research on violent and non-violent resistance movements around the world. Focus on their origins, demands, ideologies, strategies and impacts in the post-Cold War context of economic globalization, US military power and new geopolitical dynamics.

GOVT 374V. The European City: History and Culture 3 cr.
Course presents the rich, complex history and cultures of European cities from ancient to modern times, lining these cities to crucial issues in European history.

GOVT 375. Self Determination and Minority Rights 3 cr.
Comparative study of ethnic relations, minority rights, identity, citizenship and political representation.

Comparative perspectives applied to the problems of the U.S.-Mexican border.

GOVT 379. Mexican Politics 3 cr.
Introduction to the politics and government of contemporary Mexico.

GOVT 380V. Contemporary World Political Ideologies 3 cr.
Introduction to the prevailing political ideologies in the modern world and the ways in which modern nations operating under one or more of these ideologies attempt to answer fundamental questions about the allocation and distribution of rights, liberties, and other things of value. In addition, the course work and discussions attempt to address recent political, social, and economic events in various areas of the world.

GOVT 381. Special Topics in Political Theory 3 cr.
Course explores special topics or theorists in political theory. May be repeated under different subtitles.

GOVT 382. Classical Political Thought 3 cr.
Analysis of main currents in political thought from ancient Greece and Rome to the high Middle Ages.

GOVT 383. Modern Political Thought 3 cr.
Historical and theoretical examination of political ideas and ideologies from Machiavelli to Nietzsche. Topics include liberalism, conservatism, romanticism, communism, and nihilism.

GOVT 384. Contemporary Political Thought 3 cr.
Examination of major currents in political theory from early twentieth century to the present. Includes positivism, fascism, neo-liberalism, and varieties of postmodernism.

GOVT 385. American Political Thought 3 cr.
Introduction to major American thinkers and historical currents from colonial time to the present.

GOVT 386. Political Economy 3 cr.
Analysis of political ideas concerning the role of the state in management of national economies, in both European and American contexts.

GOVT 387. Religion and Politics 3 cr.
Survey of major points of interaction between politics and religion in the U.S., using theoretical, historical, and institutional analysis.

GOVT 389. Special Topics in Public Law 3 cr.
Course examines various issues in public law. May be repeated under different subtitles.

GOVT 391. Constitutional Law 3 cr.
The class explores the reasoning and political context of the Supreme Court cases that define the distribution and limits of governmental powers and duties under the U.S. Constitution, including separation of powers and federalism. Restricted to: Main campus only.

GOVT 392. Civil Liberties 3 cr.
The course examines the reasoning and political context of major Supreme Court cases defining constitutional rights of free speech, religious liberty, free press and criminal procedural rights.

GOVT 394. Judicial Process 3 cr.
Class examines the structure, function and purpose of the American judicial system. Restricted to: Main campus only.

GOVT 395. Law and Society 3 cr.
Class critically explores the development, role and impact of law on society, covering different theories of law, conceptions of justice and the values they reflect. These models are then applied to current legal issues. Not a class in legal reasoning, but one where students evaluate their beliefs about the legal system. Restricted to: Main campus only.

GOVT 396. International Law 3 cr.
Nature, growth, and scope of law of nations, rights and obligations of states in peace and war, current issues.

GOVT 397. Law and Sex 3 cr.
Sex-based discrimination and the impact of constitutional and statutory provisions and their judicial interpretations and executive orders and implementations. Same as WS 397.

GOVT 399. New Mexico Law 3 cr.
New Mexico legal system, court structure and procedures; legal terms and concepts; constitutional, criminal, mass media, historical and social issues relating to New Mexico. Same as CJ 399, HIST 399, JOUR 399, and SOC 399.

GOVT 407. Workshop 1-6 cr.
Focus on skills related to careers in government and political science. Specific topics announced in the Schedule of Classes; may be repeated for a total of 6 credits. Only 3 credits apply toward government major or minor requirements. Graded S/U.

GOVT 411. Service Learning Experience 3 cr.
Experiential learning through a community service project. May be subtitled to reflect service activity. Prerequisites: completion of 12 government credits, junior or above standing, and consent of instructor. May be repeated for a total of 6 credits; only 3 credits apply toward government major or minor requirements.

GOVT 415. Seminar in Political Literacy 1 cr.
Review and integration of political skills acquired in the Government Department. Students will prepare a professional portfolio for entry into the workforce, advanced study, and civic participation.

GOVT 422. Border Security Policy 3 cr.
Comparative policy-oriented analysis of border security worldwide. Issues under examination includes state responses to terrorism, drugs, migration, and trade development.

GOVT 465. Peru: From Incas to Inca Kola 3 cr.
Examines issues of cultural and national identity in Peru from the Incas to the present, focusing on the modern period. Themes include indigenous resistance and adaptation to colonial rule, nationalism, militarism, terrorism, globalization, and the drug trade. Same as ANTH 459 and HIST 459.

GOVT 468. Rebels, Guerrillas, and Terrorists in Modern Latin America 3 cr.
Explores history of rebels in Latin America. Examines guerilla struggles attaining national dimension. Focus on recent events, including Perú’s Shining Path, Columbia’s FARC, and Mexico’s Zapatistas. Same as HIST 331.

GOVT 469. Globalization 3 cr.
Same as SOC 489.

GOVT 473. Germany 3 cr.
Political, social, and cultural developments from the eighteenth century to the present, with emphasis on the Nazi era. Same as HIST 383.

GOVT 474. European Politics 3 cr.
Politics in European countries, European integration, post-communist states, regionalism and border politics.

GOVT 476. Modern Eastern Europe 3 cr.
Addresses the diversity of Eastern European political and cultural experiences from the end of the 19th century to the present day. Same as HIST 380.

Same as SOC 478.

GOVT 493. Mass Communications Law 3 cr.
Same as JOUR 493 and COMM 493.

GPHY - GEOPHYSICS

GPHY 330. Introduction to Geophysics 3 cr.
Elastic wave propagation and applications to mapping of geological structures, geomagnetism and geoelectricity, heat flow, gravity, internal structure and composition of the Earth, plate tectonics, and mantle convection. Prerequisite: PHYS 212G or PHYS 216G.

GPHY 340V. Planet Earth 3 cr.

GPHY 450. Selected Topics 1-3 cr.
Readings, discussions, lectures or laboratory studies of selected areas of geophysics. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

Elementary treatment of solid-earth structure and exploration geophysics, with emphasis on seismic rays and potential fields (gravitational, magnetic, electrical, and heat flow). Prerequisite: PHYS 212G or PHYS 216G.
HIST 101G. Roots of Modern Europe 3 cr.
Economic, social, political, and cultural development from earliest times to about 1700.

HIST 102G. Modern Europe 3 cr.
Economic, social, political, and cultural development from 1700 to the present.

HIST 103G. Contemporary Europe 3 cr.
The social, political, and economic development of Europe from 1870 to the present.

HIST 111G. Global History to 1500 3 cr.
Global economic, social, political and cultural developments to 1500. Thematic approach.

HIST 112G. Global History Since 1500 3 cr.
Global economic, social, political and cultural developments since 1500. Thematic approach.

HIST 201G. Introduction to Early American History 3 cr.
History of the United States to 1877, with varying emphasis on social, political, economic, diplomatic, and cultural development.

HIST 202G. Introduction to Recent American History 3 cr.
The growth of modern scientific institutions; the political and environmental change, and the Mythic West. Includes meetings outside regular class time to view feature-length films.

HIST 203G. Introduction to Early American History 3 cr.
Development of the American West from 1803 to 1900 with emphasis on conquest, federal and corporate roles in western development, environmental change, and the Mythic West. Includes meetings outside regular class time to view feature-length films.

HIST 204G. Introduction to Recent American History 3 cr.
The development of science after 1900. Emphasis will be placed on the “second scientific revolution” in physics and on the emergence of genetics and molecular biology.

HIST 205G. Introduction to Early American History 3 cr.
Cultural and social change from before contact with Europeans to 1840.

HIST 206G. Introduction to Recent American History 3 cr.
Cultural and social change from before contact with Europeans to 1840.

HIST 301G. European Thought and Culture 3 cr.
Culture and ideas in Europe from 1600 to the present, from the Scientific Revolution to Postmodernism, including ideas and their expression in science, art, literature, and politics.

HIST 302G. American Indian History I 3 cr.
The history of medicine and disease in the West from antiquity through the nineteenth century. Western medical tradition in antiquity, development of academic medicine in the Middle Ages. Anatomy and ideas about the body, hospitals and public health systems, epidemiology, modern technological and scientific breakthroughs, professionalization of medical practice, and the role of medicine in shaping attitudes toward poverty, women, race, and disease.

HIST 303G. Twentieth Century Science 3 cr.
The development of science after 1900. Emphasis will be placed on the “second scientific revolution” in physics and on the emergence of genetics and molecular biology.

HIST 304G. American Indian History II 3 cr.
Federal Indian policy, tribal histories, and the emergence of Pan-Indianism from 1840 to present.

HIST 305G. Colonial Latin America 3 cr.
Social, political, and economic development from Columbus to the Wars of Independence. Research paper required.

HIST 306G. Modern Latin America 3 cr.
Post-revolutionary developments in the nineteenth and twentieth centuries; the role of Latin America in world affairs and the Inter-American system. Research paper required.

HIST 307G. Political Science and Government in the United States since 1877 3 cr.
Economic, social, political, and cultural development in the United States since 1877 with varying emphasis on social, political, economic, diplomatic, and cultural development.

HIST 308G. Political Science and Government in the United States to 1877 3 cr.
The development of the American West from 1803 to 1900 with emphasis on conquest, federal and corporate roles in western development, environmental change, and the Mythic West. Includes meetings outside regular class time to view feature-length films.

HIST 309G. Political Science and Government in the United States since 1877 3 cr.
The development of the American West from 1803 to 1900 with emphasis on conquest, federal and corporate roles in western development, environmental change, and the Mythic West. Includes meetings outside regular class time to view feature-length films.

HIST 310G. American Indian History I 3 cr.
The history of medicine and disease in the West from antiquity through the nineteenth century. Western medical tradition in antiquity, development of academic medicine in the Middle Ages. Anatomy and ideas about the body, hospitals and public health systems, epidemiology, modern technological and scientific breakthroughs, professionalization of medical practice, and the role of medicine in shaping attitudes toward poverty, women, race, and disease.

HIST 311G. American Indian History II 3 cr.
Federal Indian policy, tribal histories, and the emergence of Pan-Indianism from 1840 to present.

HIST 312G. Colonial Latin America 3 cr.
Social, political, and economic development from Columbus to the Wars of Independence. Research paper required.

HIST 313G. Modern Latin America 3 cr.
Post-revolutionary developments in the nineteenth and twentieth centuries; the role of Latin America in world affairs and the Inter-American system. Research paper required.

HIST 314G. Political Science and Government in the United States since 1877 3 cr.
The development of the American West from 1803 to 1900 with emphasis on conquest, federal and corporate roles in western development, environmental change, and the Mythic West. Includes meetings outside regular class time to view feature-length films.

HIST 315G. Political Science and Government in the United States to 1877 3 cr.
The development of the American West from 1803 to 1900 with emphasis on conquest, federal and corporate roles in western development, environmental change, and the Mythic West. Includes meetings outside regular class time to view feature-length films.

HIST 316G. History of Women in the American West 3 cr.
The history of medicine and disease in the West from antiquity through the nineteenth century. Western medical tradition in antiquity, development of academic medicine in the Middle Ages. Anatomy and ideas about the body, hospitals and public health systems, epidemiology, modern technological and scientific breakthroughs, professionalization of medical practice, and the role of medicine in shaping attitudes toward poverty, women, race, and disease.
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<td>HIST 331</td>
<td>Rebels, Guerrillas, and Terrorists in Modern Latin America</td>
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<td>HIST 332</td>
<td>Latin America Through the Eyes of Travelers</td>
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<td>HIST 333</td>
<td>Renaissance and Reformation</td>
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<td>HIST 334</td>
<td>Art, thought, and religious, political, and social conflicts in the age of</td>
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<td>HIST 335</td>
<td>History of Christianity</td>
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<td>Medieval History to 1000</td>
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<td>HIST 337</td>
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<td>The Jacksonian Era 1800-1840</td>
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<td>HIST 344</td>
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<td>Progressive United States, 1877-1920</td>
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<td>The New Deal, 1920-1960</td>
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<td>Recent United States, 1960-Present</td>
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<td>HIST 351</td>
<td>Women in American History I</td>
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<td>Women in American History II</td>
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<td>HIST 353</td>
<td>Colonial Mexico</td>
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<td>HIST 355</td>
<td>The American West in Popular Culture</td>
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<td>HIST 356</td>
<td>The Mexican Revolution</td>
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<td>Latin America and the United States</td>
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<td>History of United States Intelligence</td>
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<td>Afro-American History I</td>
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<td>Cold War Europe</td>
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<td>HIST 366</td>
<td>British Imperialism</td>
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<td>HIST 367</td>
<td>Mexican-Americans in the United States</td>
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HIST 331: Explores history of rebels in Latin America. Examines guerilla struggles attaining national dimension. Focus on modern events, including Peru’s Shining Path, Colombia’s FARC, and Mexico’s Zapatistas. Same as GOVT 468.

HIST 332: Examines the tradition of travel writing about Latin America from the 18th century to modern tourism. Examines how Latin America has been portrayed by foreigners. Students will read a wide range of travel writings, including some by Latin Americans about the United States.

HIST 333: Art, thought, and religious, political, and social conflicts in the age of Michelangelo, Machiavelli, and Martin Luther. Prerequisite: HIST 101 or consent of instructor.

HIST 334: Examines how Italian Renaissance textual and visual culture offered Europe new ways of seeing and portraying itself, 1350-1550. Topics include: Florence, Venice, Rome, Leonardo, Michelangelo, Titian, humanism, the Medici, and republican and courtly culture. Same as ART 444.

HIST 335: Emphasizes perceptions about Jesus, the changing nature and role of the Bible, especially the new testament, interactions of religion and government, issues of faith and culture, and development of modern Christianity. Same as ANTH 335 and SOC 335.

HIST 336: Emphasis on social and cultural history.

HIST 337: Emphasis on social and cultural history.

HIST 338: Cultural, social, and intellectual background and impact of World War I. Military and diplomatic events of the war. Consequences of the war.

HIST 339: Social, cultural and political aspects of World War II, in addition to traditional military events. Emphasis on U.S. involvement.

HIST 340: The rise of big business and organized labor, increasing price rigidities, and growing government intervention. Same as ECON 340.

HIST 341: From Colonial times to the present, with emphasis upon historical development, politics, and legislation, especially in recent times.

HIST 342: Emphasis on American wars up to and including the Civil War, and on the factors contributing to the development of modern military systems.

HIST 343: Emphasis on American wars since the Civil War, and on factors contributing to the development of modern military systems.

HIST 344: Traces social, economic, environmental, and political dimensions of European settlement of North America.

HIST 345: Development and consequences of the American Revolution, Articles of Confederation, Constitution, and Federalist Period.

HIST 346: Jeffersonian period, War of 1812. Social, political, and economic history of the Jeffersonian era.

HIST 347: Mexican-American War, development of secession, American Civil War, Reconstruction.

HIST 348: Gilded Age through the end of World War I, with emphasis on the Populist movement, progressive reform, the impacts of industrialization, imperialist expansion, and World War I.

HIST 349: Roaring Twenties through the Eisenhower presidency, with emphasis on the Great Depression, Roosevelt’s New Deal, World War II, the origins of the Cold War, and the impacts of the postwar baby boom.

HIST 350: Kennedy’s New Frontier to the present, with emphasis on the Civil Rights movement, the Great Society program, the Vietnam War, the Reagan Revolution, and new social and economic challenges.

HIST 351: Changes in women’s lives in America from 1900 to 1948. Gender roles and relations, sexuality, religion, work, and social movements among Anglo-American, Native American, and African American women. Same as W S 351.

HIST 352: Changes in women’s lives and gender relations from 1848 to the present. Social movements, war, work, culture, and politics for women of all class and cultural backgrounds. Same as W S 352.

HIST 353: Covers major social, political, economic and cultural topics including pre-Columbian civilizations, early European incursions and indigenous responses, economic systems and labor exploitation, religion and spirituality, and resistance to colonial rule. Sixteenth to nineteenth centuries.

HIST 354: Examines interactions of peasants, women, indigenous peoples, and economically/politically dominant groups within the Mexican state from 1810 to the present. Assesses the contentious relationship between Mexico and the United States, focusing on the Mexican-U.S. border.

HIST 355: Explores changing images of the U.S. West in popular culture from the colonial period to the present, including literature, captivity narratives, popular travel narratives, dime novels, nature writing, Wild West shows, tourism, film, television, and advertising.

HIST 356: Examines the history of modern Mexico through the lens of the Mexican Revolution, 1910-1920. Course covers military, political, social, cultural and economic developments that shaped Mexico during and after the Revolution.

HIST 357: Economic, social, and political development of the five Central American countries with emphasis on recent events.

HIST 358: Economic, social, and political development of Argentina since independence; its influence on international affairs.


HIST 360: U.S. intelligence from George Washington to twentieth century U.S. espionage and counterintelligence agencies, including the FBI, the NSA/CSS, spy satellites, and the CIA.

HIST 361: African background, slave trade, slavery; Civil War and Reconstruction; free blacks in a white society to about 1900.

HIST 362: Black Americans in the United States in the twentieth century; segregation; black leaders, organizations, methods and goals; white reaction; the struggle for equality.

HIST 363: Rise of Europe to a position of economic and political dominance in the world from the French Revolution to World War I.

HIST 364: Course will address the foremost events, personalities, developments and ideas which marked the European continent during the twentieth century.

HIST 365: Course deals with the Cold War’s bipolar international climate as well as the individual paths charted by each European nation in response. Events, leaders, thinkers, ideas and developments will all be featured.

HIST 366: Survey of the activities of the British empire from the 16th century through the 20th century, with emphasis on Ireland, North America and India. Assesses the impact of imperial activities on British domestic politics, culture and social history, and the process and impact of decolonization.

HIST 367: Emigration; reception; impact upon society, politics, economics, and culture.
HIST 368. Teaching History 3 cr.
Philosophical and practical issues of teaching history are explored. Designed to help prospective teachers at all levels clarify their views about studying history. A variety of pedagogical strategies for teaching history are explored.

HIST 369. History of Latinos in the United States 3 cr.
Development of Latino communities since 1500 in what is today the U.S. Emphasis on 1846 to present, and on Mexican Americans, Puerto Ricans, and Cuban Americans. Major themes: race, colonialism, immigration, nationalism, class, culture, gender, and politics.

HIST 370. U.S. Immigration from the Caribbean since 1898 3 cr.
Immigration from the Caribbean (primarily Cuba, Puerto Rico, Haiti, and the Dominican Republic) giving special attention to issues such as U.S. immigration policy, social and economic conditions, migration patterns; cultural and economic adaptation; citizenship; and nationalism.

HIST 371. Ancient Greece 3 cr.
Social, cultural, and political history of Greece from the Minoan to Hellenistic periods.

HIST 372. The Roman World 3 cr.
Republic and Empire; Rome as a world power; institutional, cultural, and intellectual contributions; decline and fall.

HIST 373. Islam and the West: Cultural Contacts, Conflicts and Exchanges 3 cr.
Examines interactions, encounters and cross-fertilization between the Islamic world and the West from the seventh to the twenty-first centuries. Course includes origins of Islam, relationships between Islam, Judaism, and Christianity, and concludes with the post 9/11 present. Prerequisite(s): C or higher in HIST 221G or HIST 222 or HIST 461; or enrollment in one of these courses at the same time as enrollment in HIST 373.

HIST 374V. The European City: History and Culture 3 cr.
Course presents the rich, complex history and cultures of European cities from ancient to modern times, linking these cities to crucial issues in European history. Crosslisted with HON 374V, GEOG 374V, GOVT 374V.

HIST 375. Europe and the New World 3 cr.
Traces the social and intellectual worlds of those who first came to the Americas. The narrative of the conquests, and how the experience of the New World fundamentally changed European identity between the Columbian discoveries and the Enlightenment.

Key political and social theories of nationalism, the nation, and the nation-state; origins and development of nationalism; current examples of nationalism and ethnic cleansing. Same as GOVT 369.

HIST 380. Modern Eastern Europe 3 cr.
Addresses the diversity of Eastern European political and cultural experiences from the end of the 19th century to the present day. Same as GOVT 476.

HIST 381V. Early Russia 3 cr.
Domestic affairs and international relations from the rise of the Kievan State to the mid-nineteenth century.

HIST 382V. Modern Russia 3 cr.
Domestic policies and foreign relations from mid-nineteenth century to the present with emphasis on the Soviet period.

HIST 383. Germany 3 cr.
Political, social, and cultural developments from the eighteenth century to the present, with emphasis on the Nazi era. Same as GOVT 473.

HIST 384. Imperial Russia 3 cr.
Political, social and cultural history of Russia from 1700 to 1917.

HIST 386. New Mexico History 3 cr.
Economic, political and social development of New Mexico from exploration to modern times.

HIST 387. Spain 3 cr.
From pre-Roman times to the modern era.

HIST 388. Women in Europe I 3 cr.
The roles of women and constructions of gender in medieval and early modern Europe, 1100 - 1500. Examines how conceptions of gender and sexuality both shaped and were shaped by political and social transformations in European history. Same as WS 388.

HIST 389. Women in Europe II 3 cr.
The history of women and gender in modern Europe, 1550 to the present. Examines how conceptions of gender and sexuality both shaped and were shaped by political and social transformations in European history. Restricted to: Main campus only. Crosslisted with: WS 389

HIST 390. The Holocaust 3 cr.
The attack upon European Jews by Adolf Hitler and the National Socialist Party in Germany and occupied Europe from his accession to chancellor in 1933 until the end of the Third Reich in 1945.

HIST 391. Twentieth Century World History 3 cr.
Includes globalization; imperialism; World Wars I and II and the changing roles of Europe: the Cold War; decolonization; the rise and collapse of Communism; new social and intellectual movements; and the growing roles of East Asia, India, Latin America, Africa and the Middle East. Thematic examples.

HIST 392. Eighteenth-Century Britain 3 cr.
Initiative and supremacy of Parliament; Cromwell and the Revolution; the Restoration; the Glorious Revolution.

HIST 393. Victorian and Edwardian Britain, 1815-1914 3 cr.
Evolution of constitutional monarchy; industrialism and imperialism; reope and reform; increased influence of an intellectual elite and the emergence of the Labor Party.

HIST 393. From Rule Britannia to Cool Britannia: Twentieth-Century Britain 3 cr.
Edwardian Era, World War I, Reconciliation, the 1920s General Strike; the Great Depression and appeasement; Churchill and the war against Nazi Germany; nationalization and the Welfare State.

HIST 398. Historians and History 3 cr.
General historiography and philosophy of history; historical methodology, research, and writing; bibliographical aids and their uses. Prerequisite(s): C or higher grade in ENGL 311G.

HIST 399. New Mexico Law 3 cr.
Same as GOVT 399, C J 399, JOUR 399, and SOC 399.

HIST 400. Special Topics 3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits.

HIST 401. Environmental History 3 cr.
Seminar discusses how the natural environment and people have shaped each other, and how people have perceived and imagined the natural world. May focus upon one specific topic or area. Course includes a field trip outside regular class times.

HIST 402. Special Topics in European History 3 cr.
Special topics in European history to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

HIST 403. Special Topics in Middle Eastern History 3 cr.
Special topics in Middle Eastern history to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

HIST 404. Special Topics in Asian History 3 cr.
Special topics in Asian history to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

HIST 405. Special Topics in Latin American History 3 cr.
Special topics in Latin American history to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

HIST 406. Special Topics in United States History 3 cr.
Special topics in United States history to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

HIST 407. American Social and Cultural History to 1900 3 cr.
Life and thought in the United States from colonial times to the end of the nineteenth century.

HIST 408. History of Egypt 3 cr.
History of Egypt from ancient through modern times. Includes the study of Egypt’s interactions with the Middle East and the West, as well as its legacy for both civilizations.

HIST 409. History of Mexico History for Educators 3 cr.
Course provides content and innovative techniques for teachers of New Mexico history. Covers pre-contact Native American history through Spanish Colonial and Mexican periods through the twentieth century.

HIST 413. Native American History 3 cr.
Seminar explores the history of Native Americans, including tribal conflicts, interactions with Europeans and Euro-Americans, land loss, degradation of natural resources, federal Indian policy, pan-Indian movements, cultural resistance and revitalization, and modern tribal economies.

HIST 414. U.S. Social and Cultural History Since 1900 3 cr.
Covers social and cultural change in the United States during the twentieth century.
HIST 415. Western American History  3 cr.
Seminar explores the development of the American West with emphasis on conquest, federal and corporate impact on the West, environmental changes, and the mythic West. Includes extra class meetings to view feature-length films.

HIST 420. History of Women and Gender  3 cr.
Seminar discusses the position of women and the roles of both sexes in a specific historical and geographic setting. Course emphasizes the ways in which women and gender were both central to and fundamentally affected by all political and social transformations in history.

HIST 424. History of Art, Thought and Literature  3 cr.
Seminar discusses a variety of artistic and literary expressions in their historical contexts and focuses on the ways in which cultural forms both reflect and construct the broader historical trends that surround them.

HIST 425. History of Magic and Witchcraft in Medieval and Renaissance Europe  3 cr.
Examines history of popular and scientific beliefs about magic and witchcraft in medieval and early modern Europe. Includes origins of occult Western sciences; Arabic sources of medieval magic; the occult sciences in scholasticism; witchcraft and scholasticism; witchcraft and medieval theology; witch hunts of the 16th and 17th centuries; and the decline of belief in magic and witchcraft. Emphasis on boundaries that defined and separated magic, science, and religion in Western thought from late antiquity through the Scientific Revolution. Prerequisite: HIST 101G

HIST 426. United States Social and Cultural History to 1877  3 cr.
Seminar discussions focus on methodological approaches to United States social and cultural history to 1877 in specific historical and geographical contexts. Includes such themes as historical demography, family structure, class formation, community and popular culture.

HIST 427. Labor History  3 cr.
Seminar discussions explore labor and working-class history, including such topics as pre-industrial and industrial labor, slavery, debt peonage, indentured servitude, and housework. May explore the history of labor organization, working-class culture and leisure activities, and responses to labor issues by the state.

HIST 428. History of Terrorism in Modern Europe and the Middle East  3 cr.
Analyzes causes, methods, and consequences of terrorism in Europe and the Middle East from the Reign of Terror in the French Revolution to Al-Qaeda, Hamas and Hezbollah in the contemporary Middle East and beyond.

Explores how the natural environment influenced human actions, decisions, and cultural and social development from the colonial period to the present; how people reshaped and reordered the natural environment; and how people perceived or imagined the natural world.

HIST 430. History of Race and Ethnicity  3 cr.
Seminar explores the historical social construction of race and ethnicity, and their relationship to other systems of social difference such as class and gender. Course will examine popular and academic theories of race and ethnicity as well as historical concrete effects of racial and ethnic differences in society.

HIST 432. United States Labor History to 1877  3 cr.
Seminar discussions explore United States labor and working-class history to 1877, including such topics as pre-industrial and industrial labor, slavery, debt peonage, indentured servitude, and housework. May explore the history of labor organization, working-class culture and leisure activities, and responses to labor issues by the state.

HIST 433. United States Labor History Since 1877  3 cr.
Seminar discussions explore United States labor and working-class history since 1877, including such topics as pre-industrial and industrial labor, slavery, debt peonage, indentured servitude, and housework. May explore the history of labor organization, working-class culture and leisure activities, and responses to labor issues by the state.

HIST 434. Urban History  3 cr.
Seminar discusses cities as complex catalysts for cultural, political, and scientific development, both within cities themselves and more broadly for their nations and regions. Course deals with such topics as the relationship between social organization and physical space; city development, morphology and dynamics; and the cultural and intellectual history of cities.

HIST 436. Nations and Nationalism  3 cr.
Seminar examines major theories of nationalism from the nineteenth century to the twenty-first century. Course includes nationalist case studies from liberal nationalist state-building to ethnic cleansing in the Balkans.

HIST 437. Empire and Colonialism  3 cr.
Seminar covers the rise and fall of imperial and colonial systems. May examine the history of the British Empire, the rise of Russian and Chinese imperial orders in Central Asia, Spanish colonies in the New World, or other specific case studies, or may consider comparative patterns and narratives of imperial, colonial and post-colonial experiences. Readings include primary and secondary sources. Individual research projects required.

HIST 438. Antiquity and Modernity  3 cr.
Seminar explores links between earlier and more recent historical periods. Examples may include the Renaissance rediscovery of ancient Rome or the early modern Chinese reassessment of its classical Confucian heritage. Readings include ancient sources and the modern reception of such works, and the scholarly assessment of these processes. Individual research projects required in areas of student interests.

HIST 439. History of Science and Technology  3 cr.
Seminar discussions explore scientific thought and practice and technological change in specific historical contexts. Focus will be on the impact of science and technology on society, the development of scientific institutions, and the political and cultural context of science and technology.

HIST 440. History of Religion and Spirituality  3 cr.
Seminar examines religion and spirituality in a variety of historical settings. Includes formal religious institutions, popular religion, and heterodoxy. Introduces students to competing theories of religion.

HIST 443. History of War and Revolution  3 cr.
Seminar covers historical dynamics of violent social, political, and economic transitions. May focus upon a particular war or upheaval, such as World War II or the French Revolution, or may examine more generic characteristics of conflict and radical change across many historical examples. Extensive readings in scholarly literature. Research projects relating to specific course contents.

HIST 445. History and Memory  3 cr.
Seminar examines major theories of nationalism from the nineteenth century to the twenty-first century. Course includes nationalist case studies from liberal nationalist state-building to ethnic cleansing in the Balkans.

HIST 446. Cuba: Colony to Castro  3 cr.
History of Cuba and its role in the development of the region (four U.S. states and six Mexican states) and its importance in history of both nations, plus impact of the border region on the two national capitals.

HIST 447. China in the Modern World  3 cr.
Explores post-World War II history and the impact atomic energy has had on the United States and the world.

HIST 448. Nuclear Nation  3 cr.
Explores post-World War II history and the impact atomic energy has had on the United States and the world.

HIST 449. Readings  1-3 cr.
Individual study of selected readings and problems. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

HIST 453. Cuba: Colony to Castro  3 cr.
Economic, social, and political development of Cuba and other colonies and nations in the Caribbean with emphasis on recent events.

HIST 455. Brazil  3 cr.
Economic, social, and political development of Brazil since independence. The influence of Brazil in the international arena.

History and development of the region (four U.S. states and six Mexican states) and its importance in history of both nations, plus impact of the border region on the two national capitals.

HIST 459. Peru: From Incas to Inca Kola  3 cr.
Explores issues of cultural and national identity in Peru from the Incas to the present, focusing on the modern period. Themes include indigenous resistance and adaptation to colonial rule, nationalism, militarism, terrorism, globalization, and the drug trade. Same as ANTH 459 and GOVT 485.

HIST 471. China through the Ming Dynasty  3 cr.
History of China from origins to Ming dynasty, (1368-1644). Cultural and political development with emphasis on social and economic contexts and long term trends.

HIST 472. China in the Modern World  3 cr.
History of China from seventeenth through twentieth centuries. Rise and fall of the Manchu Qing dynasty, internal dynamics of social and political change in nineteenth and twentieth centuries, impact of Western Imperialism, and development of the Peoples Republic since 1949.
HIST 473. History of Japan 3 cr.
History of Japan through twentieth century. Political and cultural developments and their social and economic contexts. Chinese influence on early Japan, rise of Samurai and Shogunate, impact of Western Imperialism, and emergence of modern Japan.

HIST 474. Gender in East Asian History 3 cr.
Examines the position of women and the social roles of both sexes in traditional China and Japan, and traces the changes taking place in those societies in the course of modernization in the last century and a half. Scholarly literature and works of Chinese and Japanese literature in translation and cinema used. Same as W S 474.

HIST 475. History of the Global Political Economy 3 cr.
Traces development of global systems of economic interaction and the rise of European military and political dominance in the 18th and 19th centuries. Emphasis on East and South Asian roles in early modern history, and on challenges to European dominance in the 20th and 21st centuries.

HIST 479. Oral History 3 cr.
Oral history through readings, discussions, and interviews. Semester project required that includes an interview and transcript.

HIST 481. Time Traveling Through New Mexico's Past 3 cr.
Teaches historians and educators how to make history come alive. Semester project includes role playing characters and activities from a past era with local schools and museums.

HIST 483. Historic Preservation 3 cr.
Study of community development, the historic preservation movement, and the built environment. Field project.

HIST 484. Historical Editing, Theory and Practice 3 cr.
Readings in historical editing. Projects in editing at the university archives. Includes editing papers and helping to produce a scholarly journal.

HIST 486. Interpreting Historic Places for the Public 3 cr.
Explores historic site interpretation, the scholarship and philosophy of historic interpretation, and the nature of heritage interpretation for historic places.

HIST 489. Projects in History 3 cr.
Individual projects in history. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

HIST 490. Introduction to Public History 3 cr.
Surveys how historians do history in museums, archives, government agencies, and in communities. Hands-on experience provides students a better understanding of history and how historians work outside of the classroom. Seminar project required.

HIT- HEALTH INFORMATION TECHNOLOGY

HIT 221. Cooperative Experience I 1-3 cr.
Student is employed in an approved work site and is supervised and rated by the employer and instructor. Each requires a specified number of hours of on-the-job work experience. Restricted to HIT and BOT majors. Graded S/U.

HIT 222. Cooperative Experience II 1-3 cr.
Continuation of HIT 221. Restricted to HIT and BOT majors. Graded S/U.

HL S- HEALTH SCIENCE

HL S 100. Introduction to Health Science 1 cr.
An overview of professional career opportunities in the realm of health science as well as the functional roles of practice, education, administration, and research. Some field trips will be required.

HL S 150G. Personal Health and Wellness 3 cr.
A holistic and multi-disciplinary approach towards promoting positive lifestyles. Special emphasis is placed on major problems that have greatest significance to personal and community health. Topics to include nutrition, stress management, fitness, aging, sexuality, drug education, and others.

HL S 275. Foundations of Health Education 3 cr.
Role and responsibility of the health educator with emphasis on small group dynamics, oral and written communication skills, building community coalitions and an introduction to grant writing. Taught with HL S 275. Cannot receive credit for both HLS 275 and HLS 375. Prerequisite(s): Either HL S 100 or HL S 150G, or consent of instructor.

HL S 280. School Health 3 cr.
School health program including instruction, services, and healthful living; legal aspects, professional preparation; emphasis on school and community interaction. Prerequisite: HL S 150G or consent of instructor.

HL S 295. Foundations of Public Health, Epidemiology, and Biostatistics 3 cr.
Principles and major areas of public health, including ecological and total-person concept of health care systems; epidemiological approaches to disease prevention and control; using basic analytical and epidemiological statistics. Taught with HLS 295. May not receive credit for both HLS 295 and HLS 395. Restricted to: Community College campuses only.

HL S 300. Drugs and Behavior 3 cr.
A multi-dimensional approach to drugs in society: pharmacology, cultural, legal applications and psychosocial influences on the individual and the environment.

HL S 301V. Human Sexuality 3 cr.
Examination of human sexuality from a variety of perspectives: cultural, sociological, physiological and psychological. Issues examined from viewpoints such as gender, individual, family, and professional roles.

HL S 305V. Global Environmental Health Issues 3 cr.
Introduction to global environmental health challenges in the 21st century with an emphasis on environmental problems as they affect public health and personal well-being.

HL S 320. Human Stress Management 3 cr.
The physiology of stress, stress-related disease processes, and stress reduction through exercises and coping behaviors, and stress reduction techniques. Same as PE P 320.

HL S 350. Health Instruction in Secondary Schools 3 cr.
Development of the secondary school instructional program; sequence of instruction, objectives, concepts, methods, materials, and evaluation procedures. Prerequisites: HL S 150G and HL S 280.

HL S 351. Health Instruction in Elementary Schools 3 cr.
Development of elementary school instructional program: sequence of instruction, objectives, concepts, methods, materials, and evaluation procedures. Prerequisite: HL S 150G.

HL S 355. Responding to Emergencies 3 cr.
Concepts of advanced first aid and emergency care. Includes American Red Cross certification.

HL S 375. Foundations of Community Health Education 3 cr.
Role and responsibility of the health educator, with emphasis on small-group dynamics, oral and written communication skills, building community coalitions, and an introduction to grant writing. Taught with HL S 275. Cannot receive credit for both HL S 275 and HL S 375. Restricted to: Main campus, Grants campus.

HL S 380V. Women's Health Issues 3 cr.
A focus on the unique issues and problems that confront women today and how they affect the health of women.

HL S 395. Foundations of Public Health 3 cr.
Principles and major areas of Public Health: ecological concepts and total person concept of health care systems, using basic epidemiological statistics. Taught with HLS 295. May not receive credit for both HLS 295 and HLS 395.

HL S 450. Epidemiology 3 cr.
Epidemiologic approaches to disease prevention and control. Factors influencing health status. Same as E S 450.

HL S 451. Biometrics and Health Research 3 cr.
Critical analysis of community health research and related methodologies. Prerequisite: E S T 311.

HL S 452. Environmental Health 3 cr.
Introduction to environmental health designed to address public health issues. Prerequisite: Junior or Senior standing. Same as E S 454.

HL S 453. Occupational Health 3 cr.
Identification, control, and prevention of occupational diseases and injuries. Prerequisite: Junior or Senior standing. Same as E S 455.

HL S 454. Environmental Epidemiology 3 cr.
Covers thematic and research aspects, as well as methodological issues related to environmental health and epidemiology, along with international and national priorities. Prerequisites: HL S 450 and HL S 452.

HL S 457. Administration of Health Programs 3 cr.
Covers administrative responsibilities, organizational theory, strategic planning, and systems theory as applied to the administration of a variety of health programs. Prerequisite: HL S 395 or HL S 450, or consent of instructor.

HL S 459. Infectious and Noninfectious Disease Prevention 3 cr. History, etiology, and prevention of diseases affecting humans. Prerequisite: HL S 395 or HL S 470. Same as MPH 559.

HL S 460. American Indian Health 3 cr. Critical health issues facing American Indians in the contemporary world. Course included in the undergraduate American Indian Program minor.

HL S 461. Health Disparities: Determinants and Interventions 3 cr. Investigates: descriptions of health disparities and measurement issues; physical environmental factors, behavioral and emotional variables; impact of aging of the populations, increased racial and ethnic diversity, and technological developments; intervention strategies and evaluation results. Same as MPH 561.

HL S 462. Hispanic Health Issues 3 cr. Cultural differences that aid or hinder communication with Hispanic clients and the application of cross-cultural communication skills. Some field trips may be required. Same as MPH 562.

HL S 463. Interdisciplinary Seminar 3 cr. Problem-based approach to case study analysis designed to instill a broader appreciation of health issues and multidisciplinary collaboration. May be repeated for a maximum of 6 credits under different subtitles. Same as CHSS 463 and MPH 563.

HL S 464V. Cross-Cultural Aspects of Health 3 cr. An examination of health practices from a variety of cultural perspectives: communication, observation, research, and assimilation. Issues to be addressed will be examined from a number of viewpoints, such as individual, family, community, and professional roles.

HL S 465. International Health Problems 3 cr. Comparison of domestic health programs and problems with those in other parts of the world; emphasis on political parameters and delivery processes. Additional attention is focused on the health issues of the U.S.-Mexico border. Prerequisite: HL S 395 or consent of instructor. Same as MPH 565.

HL S 466. International Health Practicum 1-3 cr. Intensive examination of health practices and beliefs from a cultural perspective. Focus on health structure, index of diseases, morbidity, mortality and epidemiological approaches to planning. Required travel (personal travel, lodging, and related expenses are extra). Same as MPH 566.

HL S 467. Rural Health Issues 3 cr. Comprehensive overview of rural health services with Southwestern United States and New Mexico focus. Prerequisite: HL S 395. Same as MPH 567.

HL S 468. Coping with Loss and Grief: A Cross-Cultural Perspective 3 cr. A cross-cultural perspective to death, loss and grief. Hospice philosophy of caring for the dying will be included. Same as MPH 568.

HL S 469. U.S.-Mexico Border Health Issues 3 cr. Interdisciplinary analysis of the impact of living conditions and health issues of communities along the U.S.-Mexico border and of the strategies and initiatives to address these issues. Problem-based learning, case analysis, lecture, guest speakers, Web-CT based instruction, and field trips. Same as MPH 569.

HL S 471. Resources and Computer Applications in Health Education 3 cr. Health risk appraisal testing and other software applications, information retrieval systems, on-line database literature searches, and other resource identification methodologies. Prerequisite: HL S 395 or consent of instructor. Restricted to community health majors. Same as MPH 571.

HL S 473. Health Program Planning 3 cr. Planning and development of community health education interventions for behavior change at the individual, family, social network levels of practice. Emphasis on applying program-planning models and designs into a grant-writing project. Restricted to community health majors.

HL S 475. Methods of Community Health Education 3 cr. Responsibilities of health educators, analysis of social forces affecting health needs, application of wide range of health education methods and instructional media, and program implementation skills. Prerequisites: HL S 275. Same as MPH 575.

HL S 476. Theoretically-Based Interventions 3 cr. Identifying and developing interventions to problematic health-related behaviors. Prerequisite: HL S 473. Same as MPH 576.

HL S 477. Worksite Health Promotion 3 cr. Provides a practical applied overview of the concepts and activities used in health promotion at the worksite. Specific emphasis on health promotion planning, implementation and evaluation strategies. Same as MPH 577.

HL S 478. Health Program Evaluation and Research 3 cr. Covers the application of research and evaluation models for decision-making program and policy development of community health education interventions. Focus on the individual, family, and social network levels of practice. Prerequisite: HL S 473. Restricted to community health majors. Same as MPH 578.

HL S 480. Communicable Disease Control 3 cr. Provide an understanding of the microbiology of pathogenic organisms and a public health approach to the control of disease. Instruction through WebCT. Taught with MPH 580.

HL S 484. Alcohol and Drug Prevention and Control 3 cr. Drug and alcohol prevention and control strategies will be presented and applied to rural and border communities in southern New Mexico. Some field trips will be required. Prerequisite: HL S 390 or HL S 395 or consent of instructor. Same as MPH 594.

HL S 485. Health Topics 1 cr. Specific subjects for health professionals to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits. Same as MPH 585.

HL S 486. Special Topics 3 cr. Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits. Same as MPH 586.


HL S 490. Independent Study 1-6 cr. Individual studies with prior approval of department head. Maximum of 12 credits. Prerequisites: consent of instructor.


HL S 492. Health Care of the Aged 3 cr. General concepts and principles of aging. Introduces students to the aging process and assists them in understanding the various aspects of growing old. Same as MPH 592.

HL S 496. Community Health Education Field Experience 1-6 cr. Senior standing community health education majors will integrate and apply various concepts related to actual community health education practice. Experience aims to prepare students to integrate the competencies and responsibilities of community health education. Approximately 55 hours at field agency required per credit hour. Prerequisite: HL S 475 or concurrent enrollment and consent of instructor. Corequisite: HL S 497. May be repeated for a maximum of 6 credits. Restricted to community health majors.

HL S 497. Senior Seminar in Community Health Education 1 cr. Critical analysis of issues in CHE and health care. Readings focus on social, economic, cultural, and political issues as they affect the profession and practice. Emphasis on future, local, national, and international health trends. Prerequisite: HL S 475 or consent of instructor. Corequisite: HL S 496. Restricted to community health majors or by consent of instructor.

HL S 499. Problems in Health Education 3 cr. Provides opportunity for synthesis of program planning, implementation, and evaluation methodologies in the preparation and delivery of health education topics. Some field trips will be required. Prerequisite: either HL S 395, HL S 473, HL S 476, or consent of instructor. Restricted to community health majors.

HNFS- HUMAN NUTRITION AND FOOD SCIENCE

HNFS 163. Nutrition for Health 3 cr. Nutrition principles and applications to food choices that support health, psychological, economic, and cultural implications of food choices. Open to majors and nonmajors.

HNFS 200. Special Topics 1-4 cr. Specific topics and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.
HNFS 201. Seminar I- Becoming a Nutrition Professional 1 cr.
Introduction to field experience and to careers and professions in nutrition. Student will complete a series of assignments related to writing a resume, setting short and long term goals, and writing ethics and philosophy statements. They will also complete a segment on developing a portfolio. To enhance potential for success in college, they will complete a series of modules related to using the technology incorporated into college classes, study skills and test taking.

HNFS 210G. Survey of Food and Agricultural Issues 3 cr.
Same as AG E 210G

HNFS 251. Human Nutrition 3 cr.
Principles of normal nutrition. Relation of nutrition to health. Course contains greater amounts of chemistry and biology than HNFS 163. Open to nonmajors.

HNFS 263G. Food Science I 4 cr. (4+3P)
The scientific study of the principles involved in the preparation and evaluation of foods.

HNFS 300. Specific Topics 1-4 cr.
Specific topics and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

HNFS 301. Nutrition and Lifestyle Management 3 cr.
Covers the application of basic principles of wellness, including nutrition, physical fitness and self management skills. Focuses on the implementation of a healthy lifestyle and life-long behavior changes. Lecture followed by class walks. Course participation requires medical release.

HNFS 320. Food Microbiology 3 cr. (2+3P)
Detrimental and beneficial microbiological aspects of food products. Methods of quantification and identification of microorganisms associated with food spoilage and preservation. Prerequisite: BIOL 111G and BIOL 111L, or BIOL 211G and BIOL 211L, or BIOL 190, or consent of instructor.

HNFS 325. Food Analysis 3 cr.
Basic chemical and physical techniques used in establishing nutritional properties and overall acceptance of food products. Prerequisite: CHEM 111G or consent of instructor.

HNFS 331. Food Preservation 3 cr. (2+3P)
Processes used in home and commercial food preservation, including canning, freezing, drying, and irradiation. Prerequisite: HNFS 263.

HNFS 341. International Wine Appreciation 3 cr. (2+2P)
Evaluation of representative wines of the world. History, culture and viticultural techniques examined. Lecture followed by evaluation of imported and domestic wines. Class is both consumer and industry oriented. Prerequisite: student must be at least 21 years old. May be repeated to a maximum of 6 credits. Main campus only.

HNFS 350. Nutrition throughout the Life Cycle 3 cr.
Relationship of the stages of the human life cycle to changes in nutrient need. Prerequisites: BIOL 254, HNFS 163 and HNFS 251, or consent of instructor.

HNFS 363. Quality Food Production and Service 4 cr. (2+4P)
Menu planning, preparation, and controls in commercial food operation. Experience and practical application in commercial food service operations. Prerequisite: HNFS 263 or HRTM 263. Same as HRTM 363. Main campus only.

HNFS 400. Field Experience Commercial Establishments 1-8 cr.
Experience in the operation and management of commercial food service with cooperating establishments. Practical experience with supervision by resident faculty as well as supervisor at the work site. Performance at work site will be graded in accordance with university standards. Attendance at one weekly class session required. Maximum of 8 credits per semester and a grand total of 8 credits. Prerequisites: overall GPA of at least 2.5 and junior or senior standing or consent of instructor. Restricted to majors.

HNFS 401. Field Experience- Clinical Dietetics 1-8 cr.
Experience in various areas of clinical nutrition facilities with emphasis on nutrition care of patients. Practical experience with supervision by resident faculty as well as supervisor at work site. Performance at work site graded in accordance with university standards. May be repeated for a maximum of 8 credits. Consent of instructor required. Prerequisite(s): HNFS 201, overall GPA of 2.5 or higher and junior or senior standing and consent of instructor. Restricted to: Main campus only.

HNFS 402. Community Nutrition 3 cr.
Overview of the practice of community nutrition. Includes program planning, needs assessment, program implementation and program evaluation. Role of public and private agencies in nutrition programs that impact on nutrition of individuals and groups in the community. Prerequisite: HNFS 390 or consent of instructor.

HNFS 404. Maternal, Infant and Child Nutrition 3 cr.
Nutritional needs and status during pregnancy, infancy, childhood, and adolescence. Applications also made to preschools and day care centers. Prerequisite: HNFS 261 or consent of instructor.

HNFS 406. Geriatric Nutrition 3 cr.
Nutritional needs, status, and problems of the elderly. Prerequisite: HNFS 163 or HNFS 251; and HNFS 350 or consent of instructor.

HNFS 407. Field Experience Community Nutrition 1-8 cr.
Experience working with nutritional problems of individual families of all socioeconomic and age levels and with agencies concerned with community nutrition. Practical experience with supervision by resident faculty as well as supervisor at the work site. Performance at work site graded in accordance with university standards. Prerequisites: HNFS 201, overall GPA of at least 2.5 and junior or senior standing or consent of instructor. May be repeated for a maximum of 8 credits. Restricted to majors.

HNFS 409. Seminar II- Human Nutrition and Food Science Portfolio Development 1 cr.
Student will put together a portfolio that will include resume, ethics and philosophy statements short and long term goals. It will also include documentation from previous course work related to ethics, written presentation, oral presentation, and research. Students will also complete an application for a supervised practice program, a professional school or a job in the field. Prerequisite: HNFS 201, a GPA of 2.5 or higher and a junior or senior standing.

HNFS 410. Sports Nutrition 3 cr.
Role of nutrition in physical performance of competitive and recreational sports participants. Prerequisites: BIOL 254, BCHE 341, and HNFS 251, or consent of instructor.

HNFS 415. Food Safety and Sanitation 3 cr.
Biological, chemical and physical factors that affect the safety of food products. Basic aspects of food sanitation. Hazard analysis critical control points (HACCP). Laws and regulations influencing food safety. Prerequisites: BIOL 110G or BIOL 190 or BIOL 211G, and CHEM 110G or CHEM 111G, or consent of instructor.

HNFS 416. Nutrition and Culture 3 cr.
Cultural aspects of health, food and nutrition for most ethnic groups of the United States. Traditional versus contemporary food habits addressed along with the history and beliefs that influence such habits.

HNFS 418. Food Safety Certification 1 cr.

HNFS 421. Food Chemistry 3 cr.
Comprehensive study of the chemical and physiochemical properties of food constituents. Chemical changes involved in the production, processing, and storage of food products and basic techniques used to evaluate chemical and physiochemical properties of foods. Prerequisites: CHEM 111G, CHEM 112G, and CHEM 211, or consent of instructor.

HNFS 426. Dairy Products Manufacturing 3 cr.
Physical, chemical, microbiological and sensory properties of milk and dairy products. Capstone course which includes a variety of techniques used in previous classes to evaluate milk and dairy products. Prerequisites: HNFS 320, HNFS 325, and HNFS 421, or consent of instructor.

HNFS 427. Food Industry Research Problems I 3 cr.
In coordination with the instructor, students choose a food-industry problem and design a research project aimed at solving that problem. Prerequisites: HNFS 263, HNFS 320, HNFS 325, and HNFS 447, or consent of instructor. Restricted to majors.

HNFS 428. Food Industry Research Problems II 3 cr.
Students conduct the research project designed in HNFS 427 and complete a journal article on the project following a specified format. Prerequisite: HNFS 427. Restricted to majors.

HNFS 430. Food Service Organization and Management 3 cr.
Personnel, financial and general management in institutional and commercial food service operations. Prerequisite: junior/senior standing or consent of instructor.
HON 214. Successful Fellowship Writing 1 cr.

HON 210G. The Accidental Mathematician 3 cr.

HON 208G. Music in Time and Space 3 cr.


HON 115. Journeys of Discovery 1 cr.

HON 110. Window on the World 1 cr.

HON 111. Computers and the Information Society 3 cr.

HON 115. Journeys of Discovery 1 cr.

HON 220G. The World of the Renaissance: Discovering the Modern 3 cr.

HON 219G. Earth, Time, and Life 4 cr. (3+3P)

HON 221G. Seeking the Way: Spirit and Intellect in Premodern China 3 cr.

HON 222G. Foundations of Western Culture 3 cr.

HON 223. Evolution of Human Sexuality 3 cr.

HON 224. God and Nature 3 cr.

HON 225G. History of Ethics 3 cr.

HON 226G. Puzzles, Paradoxes, and Truth 3 cr.

HON 227G. Plato and the Discovery of Philosophy 3 cr.

HON 228G. Religion and the State 3 cr.

HON 229G. The New Testament as Literature 3 cr.


HON 231G. The Worlds of Arthur 3 cr.
HON 235G. The World of Anthropology 3 cr.
Physical and cultural exploration of humankind as seen through anthropology, human paleontology, and ethnology. Requires excellence in reading, report writing and active class discussion.

HON 237G. Archaeology: Search for the Past 3 cr.
A critical evaluation of various approaches to understanding prehistory and history. The methods and theories of legitimate archaeology are contrasted with fantastic claims that invoke extraterrestrials, global catastrophes, transoceanic voyages, and extra-sensory perception.

HON 239G. Medieval Understandings: Literature and Culture in the Middle Ages 3 cr.
Intensive, interdisciplinary introduction to the thought and culture of medieval Europe. Core texts will include works by St. Augustine, Marie de France, and Dante, as well as anonymous works such as Sir Gawain and the Green Knight, all supplemented by study of medieval art, architecture, philosophy, and social history.

HON 240. The Essentials of Relativity 4 cr. (3+3P)
Essentials of Einstein’s theory of relativity and the description of our physical world in four-dimensional space-time.

HON 241G. Telling American Stories: Society and Culture in Early America 3 cr.
Survey of social, political and cultural history of British North America and the United States from the colonial period to the Civil War, with an emphasis on the construction of historical narratives. Emphasis on the experiences of men and women of various classes and ethnic backgrounds, and on the way in which historians have interpreted those experiences.

HON 242G. Claiming an American Past 3 cr.
Survey of history of the United States in the nineteenth and twentieth centuries, with an emphasis on multicultural social and cultural history. Focus on understanding American history from the point of view of dispossessed, impoverished, and disenfranchised Americans who have fought to claim both their rights as Americans and American past.

HON 244G. Masterpieces of World Literature 3 cr.
Introduction to literature through intensive study of masterpieces from a range of cultures. Includes classical and modern works as well as non-Western literature. Genres include poetry, fiction and drama.

HON 246. Chemistry: Experiments, Laws, and Theories 4 cr. (3+3P)
Examination of the experimental methods and results, and mental processes used by chemists in our modern understanding of chemistry.

HON 248G. The Citizen and the State: Great Political Issues 3 cr.
The fundamental questions of politics: why and how political societies are organized, what values they express, and how well they satisfy those normative goals and the differing conceptions of citizenship, representation, and freedom.

HON 249G. American Politics in a Changing World 3 cr.
American politics and policies examined from a historical and global perspective. Philosophical underpinnings of American national government, the structure of government based on that philosophy, and the practical implications of both the philosophical and structural base. How American government influences and is influenced by the world community.

HON 255G. Principles of Human Communication Honors 3 cr.
Study and practice of interpersonal, small group, and presentational skills essential to effective social, business, and professional interaction.

HON 270G. The World of Theatre 3 cr.
Intercultural and historical overview of all facets of live theatre production and performance, with reference to some aspects of motion pictures and television; focus on development of capacity for critical analysis.

HON 275G. Spirit and Evolution of Mathematics 3 cr.
Spirit and development of major branches of mathematics over two millennia through original mathematical sources. Supplemented with related cultural, biographical, and mathematical history, placing mathematics in a broad human context. Prerequisite: Math ACT score of 25 or better, or meet placement for entry into MATH 190G, or consent of instructor. Same as MATH 275G.

HON 283. From Counting to Coding 3 cr.
 Covers important ideas in elementary number theory and applications. Historical development of number theory emphasized, from the ancient Greeks to the present day. Exciting recent applications, such as the secure transmission of data over the Internet also explored. HON Honors Certificate Program Students with at least a 3.2 cumulative grade-point average are eligible to enroll in the following honors courses: HON 301V. Mass Media and Society 3 cr. Introduction to the characteristics of mass media and their integration and impact on a global society.

HON 301V. Mass Media and Society 3 cr.
Introduction to the characteristics of mass media and their integration and impact on a global society.

HON 304V. Dilemmas of War and Peace 3 cr.
A multi-disciplinary introduction to war, peace, and world order studies. The origins of war and the foundations of peace are explored in the context of a rapidly changing world order.

HON 305V. Global Environment 3 cr.
Covers global environmental problems with focus on causes and possible solutions.

HON 306V. Science, Ethics and Society 3 cr.
Investigation of the ethical issues related to scientific investigation and the ethical implications of scientific discoveries for society. Emphasis on discussion of case studies about specific ethical issues in science, and readings by both scientists and non-scientists.

HON 307V. The Political World of Women 3 cr.
Covers the historical experiences, issues of concern, and political accomplishments of women in various cultures around the world. Study of the political socialization of children, women’s past and present participation in the public sphere, and gender-related policy issues from a cross-cultural perspective. Application of feminist theory to a variety of topics.

HON 308V. Into the Final Frontier 3 cr.
Exploration of space; a brief review of the history of space flight, the Apollo program, joint U.S.-Soviet space missions, and unstaffed exploration of the planets. Emphasis on knowledge gained through these efforts. Includes new space initiatives.

HON 311V. Intercultural Communication 3 cr.
Exploration of cultural differences from social science perspectives. Topics include the cultural systems of selected societies, as well as ethnic conflict, prejudice, stereotyping, intercultural communication, intercultural relations, and culture shock.

HON 313. Research and Writing 3 cr.
Workshop format designed to prepare students for research and writing associated with production of an honors thesis or a major research assignment. Does not count for general education or honors certification credit.

HON 314. Successful Fellowship Writing 1 cr.
Provides scholars with hands-on skills to complete proposals for scholarships and fellowships, such as the Truman, Rhodes, Marshall, Goldwater, Udall, and others. Other skills include how to write resumes, develop general research skills, and find grant and foundation sources.

HON 317V. Cultural Lessons of Nazism 3 cr.
Examination of the values and cultural manifestations of fascism in the period 1918-45 with multidisciplinary emphasis on European forms of fascism, particularly German Nazism. Course features a survey of literary, dramatic, poetic, cinematic, and artistic treatments of human behavior leading up to fascism, living under fascist rule, and coming to grips with the consequences of war and genocide.

HON 318V. The World of Cinema 3 cr.
Appreciation of the art of motion pictures as world-wide medium specific to national cultures. Refinement of cinematic literacy and critical viewing skills. Historical and thematic overview emphasizes collaborative nature of medium in various genres from 1895 to present. Selected films from different periods and different countries. Substantial library research projects.

HON 319V. The Natural World of Thomas Jefferson 3 cr.
Thomas Jefferson’s impact on agriculture, food, and the ecology both during his lifetime and today.

HON 320V. Food and Humanity: World in Crisis 3 cr.
In an era of great advance in food production technology, famines affecting millions continue to occur in the world. Focus on the interrelationship between food production, hunger, and population growth. Covers brief introduction to the culture, history and geography of food production; the dynamics of population growth and the prospects of control; the evolution and structure of the American food system, the politics of food, the development of technology, and the impacts of natural resource and environmental issues.

HON 321V. Agriculture in an Urban World 3 cr.
Study of the impact of agriculture on cultural and social systems, with special emphasis on twentieth century urban development.

HON 322V. Science and Public Policy 3 cr.
Explores the interaction between science and public policy. Introduces process of science with explicit development of its power and limitations. Statistical inference, cause and effect, and chaotic processes. Economic impacts of public policies and current issues of agricultural and environmental policies.
HON 325V. Cultural Perspectives on Dress 3 cr.
Interdisciplinary and cross-cultural perspectives on dress. Focus on diversity and social change, the influence of cultural ideals and standards of appearance, and the evolution of dress in response to society's needs, values, and technology. Cultural perspectives of European, African, North and South American, Pacific, Asian, and Middle Eastern countries.

HON 329V. Contemporary International Literature 3 cr.
Introduction to contemporary literature through intensive study of works from a range of cultures around the world.

HON 330V. Art and Mythology 3 cr.
Mythological figures, past and present, in the visual arts. Through iconographical studies (attributes and symbols), trace the development of visual traditions that evolved from the literary sources of classical Mediterranean mythology.

HON 331V. The Novel 3 cr.
Intensive reading of, as well as discussion and writing about, selected major novels from around the world. Emphasizes the history of the novel in order to help students understand the nature and cultural role of the genre.

HON 332V. Astronomical Research 3 cr.
Through the use of a telescope, students learn how basic research in astronomy combines observation and analysis. Emphasis on the interplay of technology with research and the limitations that observational errors place on interpretation. Includes fundamentals of stellar astronomy.

HON 334V. Legal Issues in Modern Society 3 cr.
Case study approach to contemporary legal problems involving environment, consumer protection, international law, corporate responsibility.

HON 336V. Perspectives on Violence 3 cr.
Social construction of violence, its impact on especially urban communities, and strategies to disarm it.

HON 337V. World Dance 3 cr.
Exploration of the journey of the individual through life.

HON 339V. Islam and the West: Cultural Contacts, Conflicts, and Exchanges 3 cr.
This course examines interactions, encounters and cross-fertilization between the Islamic world and the West from the 7th - 21st century. It begins with the origins of Islam and its relationship to Judaism and Christianity and ends in the post 9/11 present, an era some characterize as dominated by a “clash of civilizations.”

HON 340V. Legal Issues in Modern Society 3 cr.
Introduction to the ways law is used to order human relationships, as well as ways cultural subgroups seek freedom from law. Course seeks to expose many of the underlying value conflicts which give rise to law and which are reflected in the use of law, and how we might begin to differentiate between valid and invalid laws.

HON 345V. Law, Culture, and Conflict 3 cr.
Introduction to the ways law is used to order human relationships, as well as ways cultural subgroups seek freedom from law. Course seeks to expose many of the underlying value conflicts which give rise to law and which are reflected in the use of law, and how we might begin to differentiate between valid and invalid laws.

HON 346V. Perspectives on Violence 3 cr.
Social construction of violence, its impact on especially urban communities, and strategies to disarm it.

HON 347V. Legal Issues in Modern Society 3 cr.
Case study approach to contemporary legal problems involving environment, consumer protection, international law, corporate responsibility.

HON 348V. Comparative Mythology: Myth, Ritual, and the Life Cycle 3 cr.
Prominent works of Jewish literature from Biblical through contemporary periods. Individual research into works of interest to students for presentation to class. Problems of language and culture translation.

HON 349V. Contemporary African and Caribbean Fiction 3 cr.
Selected works shaped by colonial and post-colonial experiences in twentieth-century Africa and the Caribbean. Focus on the ongoing search for alternative identities in the form of a decolonized literature and culture.

HON 350V. The Gothic Imagination 3 cr.
Introduction to Gothic literature from its beginnings in the late eighteenth century that focuses on the political, psychological, religious, social, and familial values this literary genre explores and questions.

HON 351V. The Creative Act 3 cr.
Explores the nature of design and what it means to design in various diverse media. Included are creative efforts in writing, art, music, and technology. Commonalities and differences are considered.

HON 352V. Crime, Justice, and Society 3 cr.
Overview of crime as a problem across a variety of contemporary societies. History of the criminal justice system; treatment of crime as a public policy issue; political forces impacting the administration of justice in the United States and other nations.

HON 353V. Justice without Prejudice 3 cr.
Exploration of central questions about race, ethnicity, and justice. Students will learn to argue persuasively from different perspectives, both orally and in writing.

HON 354V. Sexuality in Christianity and Islam 3 cr.
Analyzes and compares Christian and Muslim views on appropriate sexual behavior, the meaning of sin, and the role of the body in spiritual transformation.

HON 355V. Working in Teams 3 cr.
How to productively work in teams. Emphasizes skills of effective team members: problem solving and decision making, communicating, managing conflict, developing appropriate norms, leading and influencing others, understanding group roles, etc.

HON 356V. Jewish Literature and Culture 3 cr.
Introduction to contemporary multicultural women's literature through intensive study of works from various countries.

HON 357V. Freedom of Speech and the Law 3 cr.
Examination of freedom of speech and of press both in the United States and in other societies. Examines a wide range of laws, court rulings and regulatory schemes covering areas such as defamation, sedition, and regulation of broadcasting and advertising.

HON 358V. Technology and Policy 3 cr.
Study of the processes through which society sets goals for science and technology, of the allocation of resources needed to achieve these goals, and of the obligations and conflicts that develop as the goals are realized. International comparisons of public policies.

HON 359V. Literature as Film 3 cr.
Considers the various results of literary adaptations to the screen. Participants will read literary texts written or translated into English and watch films from various countries as illustrations of this process.

HON 360V. Comparative Economic Systems 3 cr.
A global comparison of economic institutions and problems.

HON 361V. Contemporary Multicultural Women's Literature 3 cr.
Introduction to contemporary multicultural women's literature through intensive study of works that explore the impact of ethnic or cultural heritage in American society.

HON 362V. The Sixties: Society, Culture, and Change 3 cr.
An examination of social, political, and cultural change in the 1960s in the United States and around the world. Topics include the New Left, the Black Panthers, the Civil Rights Movement, the Women's Liberation Movement, as well as major cultural changes in music, drugs, and interpersonal behavior.

HON 363V. Consumer and the Law 3 cr.
A study of the multidisciplinary synergism of law, societal concerns, business, and ethics of consumer issues and attendant liability and remedies for the domestic and international markets.

HON 364V. Women in the Economy 3 cr.
Overview of women's participation in the U.S. and other economies. Main economic problems, including role and wage differences between men and women and why those differences exist. Economic theory, empirical studies, and the government's economic policies as they relate to gender.

HON 365V. Comparative Perspectives on Women 3 cr.
The history, antecedents, and consequences of sex and gender systems around the world from the perspective of sociology, anthropology, and psychology.

HON 366V. Leadership and Society 3 cr.
Exploration of the multifaceted nature of leadership in modern society through readings and seminar discussion.
HORT 200. Special Topics 1-4 cr.
Discussions of causes and effects of the Vietnam conflict on the Vietnamese people, American society, and international affairs, with special emphasis on the diplomatic and military role of the United States.

HORT 203V. Vietnam: America’s Longest War 3 cr.

HORT 205. Introduction to Horticulture 3 cr.
Same as NURS 330V.

HORT 211. Ornamental Plants II 4 cr. (3+3P)
Identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on flowering trees, cacti, and members of the pea and rose families.

HORT 211. Ornamental Plants II 4 cr. (3+3P)
Covers identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on deciduous trees, native shrubs, and evergreens.

HORT 100G. Introductory Plant Science 4 cr. (3+2P)
Covers fundamental principles of reproduction, variation, and heredity in plants and animals. Prerequisites: CHEM 111G, BIOL 111, and BIOL 190, or BIOL 211. Same as AGRO 305, ANSC 305, and BIOL 305.

HORT 230V. Organic Fall Vegetable Production 3 cr.
Planning, planting, and harvesting vegetable crops following federal guidelines for certified organic production. Sale of produce through community-supported agriculture system. Distribution; financial management; and fertility, weed, disease, and insect-pest evaluation and management. Evaluation of crop production and financial performance from previous fall. Same as AG E 330V. Same as HORT 331V (spring) with additional assignment for Honors students.

HORT 240. Floral Quality Evaluation and Design 2 cr. (1+2P)
Critical hands-on evaluation of the quality of cut and potted floral and tropical foliage crops, their specific merits and faults, and fundamentals of floral design.

HORT 241. Floriculture Field Practicum 1 cr.
Participation as team member in the National Intercollegiate Floral Quality Evaluation and Design Competition. Intensive week-long travel for competition, networking with industry, academia, and floriculture tours. May be repeated for a maximum of 3 credits. Prerequisite(s): HORT 240 or consent of instructor.

HORT 250. Plant Propagation 3 cr. (2+2P)
Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques. Same as AGRO 250.

HORT 300. Special Topics 1-4 cr.
Specific subjects as announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

HORT 301. Introduction to Landscape Horticulture 3 cr.
Overview of landscape horticulture including identification and use of selected ornamental plant material and the principles of landscape design, construction, and maintenance. Credit cannot be received for both HORT 301 and HORT 307 or HORT 308.

HORT 302V. Forestry and Society 3 cr.
Same as RGSC 302V.

HORT 305. Principles of Genetics 3 cr.
Covers fundamental principles of reproduction, variation, and heredity in plants and animals. Prerequisites: CHEM 111G, BIOL 111, and BIOL 190, or BIOL 211. Same as AGRO 305, ANSC 305, and BIOL 305.

HORT 307. Landscape Design 3 cr. (1+4P)
Design elements, the design process, and contemporary planting design used in the design of residential and small commercial landscapes. Basic drafting, drawing, and landscape plan presentation techniques. Prerequisites: HORT 210 or HORT 211 or concurrent enrollment or consent of instructor.

HORT 308. Landscape Construction 3 cr. (1+4P)
Site grading, drainage, and construction of residential and small business landscapes. Landscape material use, cost estimating, and the introduction to material specifications.

HORT 310. Medicinal Herbs 3 cr.
Introduction to ethnobotany, including plant cultivation, extraction methods, and analysis of active chemicals.

HORT 310 L. Medicinal Herbs Laboratory 1 cr.
Propagation, harvesting and processing of selected medicinal plants. Corequisite: HORT 310.

HORT 330V. Organic Fall Vegetable Production 3 cr.
Planning, planting, and harvesting vegetable crops following federal guidelines for certified organic production. Emphasis on planting fall crops, harvesting summer crops, and planning summer and fall crops. Sale of produce through community-supported agriculture system. Distribution; financial management; and fertility, weed, disease, and insect-pest evaluation and management. Evaluation of crop production and financial performance from previous spring. Same as AG E 330V. Same as HORT 331V with additional coursework for Honors students.

HORT 331V. Organic Spring Vegetable Production 3 cr.
Planning, planting, and harvesting vegetable crops following federal guidelines for certified organic production. Emphasis on planting spring and summer crops, harvesting spring crops, and planning summer and fall crops. Sale of produce through community-supported agriculture system. Distribution; financial management; and fertility, weed, disease, and insect-pest evaluation and management. Evaluation of crop production and financial performance from previous fall. Same as AG E 331V. Same as HORT 330 with additional coursework for Honors students.

HORT 340. Plant Tissue Culture Methods 3 cr. (2+3P)
Tissue culture methods in plant propagation and crop improvement, including culture of meristem-tips, anthers, embryos, callus, cells, protoplasts and regeneration of plants from cells. Prerequisites: BIOL 111G or BIOL 211G, and CHEM 111G or CHEM 112G, or consent of instructor. Same as AGRO 340 and BIOL 340.

HORT 350. Arboriculture 3 cr.
Establishment, culture, and maintenance of trees, shrubs, and vines in the landscape. Prerequisite: HORT 100G.
Horticulture and Technology

HORT 365. Principles of Crop Production 4 cr. (3+3P)
Prerequisites(s): AGRO/HORT 100, CHEM 111G or equivalent and Math 120 or equivalent. Crosslisted with: AGRO 365

HORT 377. Introduction to Turfgrass Science 4 cr. (3+3P)
Introduction to the scientific fundamentals for turfgrass management cultural practices, pest management, rootzone construction and ecology.

HORT 391. Internship 1-6 cr.
Professional work experience under the joint supervision of the employer and a faculty member. A written report is required. No more than 6 credits toward a degree. Consent of instructor required. Graded: S/U. Crosslisted with: AGRO 391 and SOIL 391

HORT 420. Postharvest Biology and Technology 4 cr. (3+3P)
Biological principles of maturation, ripening and senescence of horticultural commodities. Technology related to harvesting, handling, cooling and shipping. Prerequisite: BIOL 314 or EPWS 314, or consent of instructor.

HORT 447. Seminar 1 cr.
Review of current literature. Same as AGRO 447 and SOIL 447.

HORT 449. Special Problems 1-3 cr.
Research problem, experience training, or other special study approved by a faculty adviser. Maximum of 3 credits per semester and a grand total of 8 credits. Same as SOIL 449 and AGRO 449.

HORT 450. Special Topics 1-4 cr.
Specific subjects as announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

HORT 462. Plant Breeding 3 cr.
Principles and practices involved with the genetic improvement of plants. Prerequisites: ANSC/AGRO/BIOL/HORT 365. Same as AGRO 462.

HORT 465. Landscape Case Studies 3 cr. (1+4P)
Application of design principles to case study problems. Introduction to the use of computer-aided landscape design. Prerequisite: HORT 307 or consent of instructor.

HORT 471. Plant Mineral Nutrition 3 cr.
Basic and applied aspects of plant requirements for soil-derived minerals and the processes whereby minerals are acquired, absorbed, translocated, and utilized throughout the plant. Prerequisite: EPWS/BIOL 314, or concurrent enrollment, or consent of instructor. Same as AGRO/EPWS 471.

HORT 475. Woody Plant Physiology 3 cr.
Plant physiological processes as related to growth, development and yield of trees or shrubs. Prerequisite: EPWS/BIOL 314, or concurrent enrollment, or consent of instructor.

HORT 479. Advanced Turfgrass Science 3 cr.
Extensive reviews of turfgrass sciences including ecology, physiology, entomology, pathology, weed science, and soil science. Prerequisite: HORT 378 or consent of instructor.

HORT 484. Ornamental Plant Production and Management 4 cr. (3+3P)
Covers the principles and practices of greenhouse and nursery crop production and management. Greenhouse irrigation and water quality, fertilization, containers and media, lighting, CO2 enrichment, growth control, and crop scheduling. Prerequisite: HORT/AGRO 365 or consent of instructor.

HORT 485. Vegetable Crop Production 4 cr. (3+2P)
Physiological, environmental and cultural aspects of vegetable crop production. Corequisite: AGRO 365 or HORT 365.

HORT 488. Greenhouse Management 4 cr. (3+3P)
Principles and practices involved in greenhouse structures and construction, site considerations, covering materials, heating and cooling systems, greenhouse crop production techniques, and case studies. Prerequisite: HORT/AGRO 365 or consent of instructor.

HORT 492. Diagnosing Plant Disorders 3 cr. (2+3P)
Systematic diagnosis of the physiological, pathological, and entomological causes of plant disorders. Prerequisites: EPWS 303 and EPWS 310. Same as EPWS 492 and AGRO 492.

HOST - HOSPITALITY AND TOURISM

HOST 201. Introduction to Hospitality Industry 3 cr.
Overview of hospitality industry; organization and operation of lodging, food and beverage, and travel and tourism segments; focus on career opportunities and future trends of hospitality industry. Restricted to: Community College campuses only.

HOST 202. Front Office Operations 3 cr.
Hotel/motel front office procedures detailing flow of business, beginning with reservations and extending to the night audit process. Restricted to: Community College campuses only.

HOST 203. Food and Beverage Operations 3 cr.
Food service management, sanitation procedures, menu planning, purchasing, storage, and beverage management. Restricted to: Community College campuses only.

HOST 204. Promotion of Hospitality Services 3 cr.
Organization of hotel marketing functions; developing a marketing plan to sell the varied services of the hotel/motel property. Restricted to: Community College campuses only.

HOST 205. Housekeeping, Maintenance, and Security 3 cr.
Function of housekeeping departments, including personnel, sanitation, maintenance, and materials. A survey of security procedures to include guest protection and internal security of hotel/motel assets. Restricted to: Community College campuses only.

HOST 206. Travel and Tourism Operations 3 cr.
Transportation, wholesale and retail operations, attractions, the traveler, tourism development, and operational characteristics of tourism business. Restricted to: Community College campuses only.

HOST 207. Managerial Accounting for Hospitality 3 cr.
Concepts of service and the customer, integrating the need for service quality, and the continuing efforts to maximize returns for the operation. Classic service styles as well as more modern service techniques are covered. Students gain in-depth managerial knowledge, planning skills, and hands-on techniques for consistently delivering quality and service in a variety of operations. Restricted to: Community College campuses only.

HOST 208. Hospitality Supervision 3 cr.
Strategies for directing, leading, managing change and resolving conflict. Preparers to meet expectations of management, guests, employees, and governmental agencies. Restricted to: Community College campuses only.

HOST 209. Managerial Accounting for Hospitality 3 cr.
Prepares students to make effective business decisions based on financial report information; forecasting, budgeting, cost analysis. Prerequisite(s): HOST 120 or ACCT 292. Restricted to: Community College campuses only.

Banquet operations, including computer coordination, planning, set up, service, and completion. Restricted to: Community College campuses only.

HOST 211. Food Production Principles 3 cr. (2+2P)
Introduction to kitchen design, workflow, and commercial equipment. Techniques, methods, and application of basic food production principles. Practical experience in cooking processes. Restricted to: Community College campuses only.

HOST 212. Advanced Food Production 3 cr. (2+2P)
Selection and use of ingredients. Demonstrations of classical and modern cooking, preparation techniques, and garde-manger functions. Recipe design and analysis. Prerequisite(s): HOST 211. Restricted to: Community College campuses only.

HOST 213. Professional Baking Operations 3 cr. (2+2P)
Fundamentals of baking, including leavened and yeast productions, breads, cakes, pastries, and cookies. Exposure to commercial equipment and processes. Introduction to commercial alternatives to scratch-preparation methods. Restricted to: Community College campuses only.

HOST 214. Purchasing and Kitchen Management 3 cr.
Technical purchasing concepts, product selection, and specifications. Safety and sanitation as they relate to food service establishments. Prepares student for work with HACCP programs. Prerequisite(s): HOST 203. Restricted to: Community College campuses only.

HOST 215. Museum Operations 3 cr. (2+3P)
Museum operations, including financial, managerial, and display-preservation issues, as well as specimen-display acceptance and setup. Consent of instructor required. Restricted to: Community College campuses only.

HOST 216. Event Conference and Convention Operations 3 cr.
The ability to successfully plan, organize, arrange, and execute special events is critical to the success of many hospitality organizations. This course gives the student a grounding in the skills necessary to achieve success in this area. A variety of events are discussed and the similarities and differences with conferences and conventions are explored. Students are taught to organize and plan events of varying type and duration. Sales, logistics, and organizing skills are emphasized. Restricted to: Community College campuses only.
HOST 217. Introduction to Gaming Operations 3 cr.
A survey of the history of gaming operations (especially Native American gaming), casino regulations, industry trends, and an overview of its impact on tourism. Consent of instructor required. Restricted to Community College campuses only.

HOST 218. Advanced Baking Techniques 3 cr. (2+2P)
Advanced techniques of the pastry chef are explored and developed. Students are exposed to classical forms and techniques. Modern methods of preparing traditional pastry and baked goods will be introduced. Prerequisite(s): HOST 213. Restricted to: Community College campuses only.

It is the responsibility of the manager to provide appropriate security, sanitation, and safety precautions in hospitality operations. Preparation for internal and external disasters is an important task for the Hospitality Manager. This course uses the National Restaurant Association ServSafe training material. Restricted to: Community College campuses only.

HOST 220. Experiential Travel 3 cr.
Course provides an opportunity for students to plan, prepare for and experience travel to destinations they might not otherwise have visited. Students experience local culture and peoples. Prerequisite(s): HOST 201 or consent of instructor. Restricted to: Community College campuses only.

HOST 221. Cooperative Experience 3 cr.
Student employed in approved work site; supervised and rated by employer and instructor. Each credit requires specified number of hours of on-the-job work experience. Consent of instructor required. Graded: S/U. Restricted to: Community College campuses only. Restricted to HOST majors.

HOST 222. Cooperative Experience II 3 cr.
Continuation of HOST 221. Restricted to majors. Graded: S/U. Prerequisite(s): HOST 221. Restricted to: Community College campuses only. Restricted to HOST majors.

HOST 223. Travel Agency Principles 3 cr.
Travel agents are called upon to exhibit broad knowledge about many different tourism products. This course prepares students to undertake the challenging job of an agent in a travel agency. Restricted to: Donna Ana campus, Carlsbad campus.

HOST 224. Travel Agency Booking & Operations 3 cr.
Course trains students to use the common electronic booking software that is found in travel agencies. Familiarization with operational procedures of travel agencies. Prerequisite(s): HOST 223. Restricted to: Community College campuses only.

HOST 225. Introductory Cake Decorating 1 cr.
Introduction to the professional cake decorating techniques used by pastry chefs. Basic skills of piping a variety of icings into different patterns are taught. Restricted to: Community College campuses only.

HOST 226. Intermediate Cake Decorating 1 cr.
Introduction to more advanced professional cake decorating techniques used by pastry chefs. Fondant work and more complex decorating schemes are taught. Prerequisite(s): HOST 225. Restricted to: Community College campuses only.

HOST 227. Chocolate Work 1 cr.
Introduction to working with chocolate utilizing a variety of methods. Tempering, forming, molding, and other professional techniques will be taught. Restricted to: Community College campuses only.

HOST 228. Wedding Cake Design and Construction 1 cr.
Basic skills in designing wedding (or other specialty event) cakes. Includes shaping, icing selection, decorating scheme, presentation, transportation, and remote set up. Restricted to: Community College campuses only.

HOST 229. Hospitality Service Capstone 3 cr.
Refines skills and validates courses the student has taken in hospitality program. Business simulations, case studies and projects used to test and improve hospitality business practices. Prerequisite(s): HOST 201, HOST 203, HOST 207, HOST 208, HOST 209 and HOST 221. Restricted to: Community College campuses only. Restricted to HOST majors.

HOST 230. Wedding Events Management 3 cr.
This course will address various issues that could potentially arise in the preparation and management of a wedding or related event. All aspects of planning and attention to details that will ensure that students are prepared to provide services as a professional wedding planner. Restricted to: Community College campuses only.

HOST 231. Hotel Operations I 3 cr.
Analysis of hotel systems design, process, and applications for operating areas including guest services, reservations, reception, telecommunications, guest/city ledger, and the night audit. Prerequisites: HRTM 201 and HRTM 221.

HRTM 111. Freshman Orientation 1 cr.
Orientation to university life, including available resources and methods to promote success at NMSU. Open to all freshmen and transfer students. Graded S/U.

HRTM 200. Special Topics 1-4 cr.
Specific subjects and credits to be assigned on a semester basis for both lecture and laboratory assignments. Prerequisite: consent of instructor. May be repeated for a maximum of 4 credits.

HRTM 201. Introduction to Tourism 3 cr.
Survey of travel and tourism development and operating characteristics.

HRTM 202. Colloquim I 1 cr.
Distinguished industry and professional speakers lecture on current issues. May be repeated for a maximum of 2 credits. Graded S/U.

HRTM 221. Introduction to Hospitality Management 3 cr.
Overview of the major segments of the hospitality industry, with a focus on basic management principles.

HRTM 231. Safety, Sanitation and Health in the Hospitality Industry 2 cr.
Addresses public health, HACCP, safety and culinary nutrition responsibilities in the hospitality industry. Sanitation certification test allows students to receive national credential.

HRTM 263. Food Production and Service Fundamentals 3 cr. (1+4P)
Basic overview of food service systems, including menu management, purchasing and production applied to an operating environment. Includes basic principles of food fabrication and production. Topics include knife skills, culinary terminology, product identification, quality standards, nutritional cooking theory and application of food preparation techniques. Laboratory aspects and demonstration of basic food production techniques, service styles, practice and procedures in food service operation including culinary math. Students will apply this knowledge by developing products for sale in a student run restaurant. Prerequisites: HRTM 221 and HRTM 231.

HRTM 300. Special Problems 1-4 cr.
Intermediate-level management internship experience for students in various phases of the hospitality and tourism industry. Specific guidelines must be followed and meet the approval of the HRTM faculty. Prerequisite: consent of instructor. May be repeated for a maximum of 4 credits.

HRTM 301. Hotel, Restaurant, and Tourism Marketing 3 cr.
The development of effective marketing programs for hospitality service organizations. Prerequisites: HRTM 221

HRTM 302. Hospitality Management Accounting 3 cr.
Specialized accounting for hotel revenue and expenses; accounting for inventory, property, and equipment; hospitality payroll accounting; hotel departmental financial statements; income statement, balance sheet, and statement of cash flows; the analysis of financial statements; interim and annual reports; budgeting expenses; forecasting sales; budgetary reporting and analysis; and financial decision making. Prerequisite: ACCT 252

HRTM 304. Hospitality and Travel Law 3 cr.
Specialized applications of the law to the hospitality and tourism industry. Prerequisite: HRTM 221.

HRTM 307. Professional Development 1 cr.
Covers essential elements of career management including preparation for a successful internship. Restricted to majors. Graded S/U.

HRTM 310. Colloquium II 1 cr.
Distinguished industry and professional speakers lecture on current issues. Graded S/U. May be repeated for a maximum of 4 credits.

HRTM 311. Hospitality Leadership Management 3 cr.
Examines modern leadership theory in the context of the hospitality industry. Connects contemporary leadership topics to their historical antecedents through focused reading, discussion and film. Prerequisites: HRTM 221 and HRTM 201.

HRTM 331. Hotel Operations II 3 cr.

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>HRTM 363</td>
<td>Hospitality Facilities Management 3 cr.</td>
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<td>HRTM 400</td>
<td>Field Experience 1-6 cr.</td>
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<td>HRTM 404</td>
<td>Gaming Operations and Organization 3 cr.</td>
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<td>HRTM 408</td>
<td>Hospitality Internship 1 cr.</td>
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<td>HRTM 409</td>
<td>Internship Seminar 1 cr.</td>
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<td>HRTM 410</td>
<td>Hospitality Cost Control 3 cr.</td>
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<td>HRTM 412</td>
<td>Beverage Management 3 cr.</td>
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<td>HRTM 413</td>
<td>Restaurant Operations Management 4 cr. (1-6P)</td>
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<td>HRTM 414</td>
<td>International Food and Wine 3 cr.</td>
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<td>HRTM 420</td>
<td>Club Management and Marketing 3 cr.</td>
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<td>HRTM 421</td>
<td>Tourism Issues 3 cr.</td>
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<td>HRTM 422</td>
<td>Tourism Development and Expansion 3 cr.</td>
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<td>HRTM 423</td>
<td>Hospitality and Tourism Research and Applications 3 cr.</td>
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<td>HRTM 430</td>
<td>Hospitality Facilities Management 3 cr.</td>
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<td>HRTM 431</td>
<td>Hotel Operations II 3 cr.</td>
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<td>HRTM 432</td>
<td>Hotel Revenue and Sales Management 3 cr.</td>
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<td>HRTM 433</td>
<td>Training for Hospitality Operations 3 cr.</td>
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<td>HRTM 434</td>
<td>Senior Capstone Experience 3 cr.</td>
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<td>HRTM 435</td>
<td>Special Topics 1-4 cr.</td>
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<tr>
<td>I B 317</td>
<td>International Marketing 3 cr.</td>
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<td>Same as MKTG 317.</td>
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</table>
| I B 351     | International Business 3 cr.                                                  |         | The various aspects of international business, and identification and analy-
|             |                                                                               |         | is of problems encountered by multinational companies. Prerequisite: junior standing or consent of instructor. |
| I B 398     | International Business and Economic Environments 3 cr.                       |         | Description and analysis of various world regions, e.g., Pacific Rim, Eastern |
|             |                                                                               |         | Europe, South Asia. Region will vary from semester to semester.              |
| I B 450V    | International Economics 3 cr.                                                 |         | Same as ECON 450V.                                                          |
| I B 458     | Comparative International Management 3 cr.                                    |         | Cultural influences on management are examined in a global business envi-
|             |                                                                               |         | ronment with a particular emphasis on human behavior in multinational or-
|             |                                                                               |         | ganizations and the management of human resources. Same as Mgt. 458.         |
| I B 475     | International Finance 3 cr.                                                   |         | Same as FIN 475.                                                            |
| I B 489     | Senior Seminar in International Business 3 cr.                               |         | Capstone class for I B majors. Integration of previous coursework via the |
|             |                                                                               |         | examination of case studies and completion of a major project. Prerequi-
|             |                                                                               |         | site: I B core.                                                              |
| I E 110     | Industrial Engineering Orientation 1 cr.                                      |         | Introduction to Industrial Engineering Department, Facility Research and |
|             |                                                                               |         | Resources. Overview of where industrial engineering fits into larger view |
|             |                                                                               |         | of all of engineering. Introduction to university resources for industrial |
|             |                                                                               |         | engineering students. Restricted to majors.                                  |
| I E 151     | Computational Methods in Industrial Engineering 3 cr.                         |         | History, social implications, and application of computers and an introduc-
|             |                                                                               |         | tion to computer programming, word processing, and database manage-
|             |                                                                               |         | ment systems. Satisfies General Education computer science requirement. |
|             |                                                                               |         | Prerequisite: MATH 121G.                                                   |
| I E 152     | Introduction to Industrial Engineering 2 cr.                                  |         | Historical development of industrial engineering, present practice and |
|             |                                                                               |         | trends. Prerequisite: MATH 120.                                             |
| I E 200     | Special Problems-Sophomore 1-3 cr.                                           |         | Directed individual projects. Prerequisite: consent of faculty member. May |
|             |                                                                               |         | be repeated for a total of 3 credits.                                       |
I E 217. Manufacturing Processes 2 cr.
Manufacturing methods and industrial processes which include casting, forming and machining. Prerequisite(s): MATH 121G. Corequisite(s): I E 217L. Crosslisted with: E T 217

I E 217 L. Manufacturing Processes Laboratory 1 cr. (3P)
Laboratory associated with I E 217.

I E 300. Special Problems-Junior 1-3 cr.
Directed individual projects. May be repeated for a total of 3 credits. Prerequisite: consent of faculty member.

I E 310V. Continuous Quality Improvement 3 cr.
Deming’s philosophy, Malcolm Baldridge national quality award, probability theory, discrete and continuous distributions, parameter estimation, hypothesis testing, control charts, design of experiments, analysis of variance, factorial experiments. Prerequisite: MATH 192G.

I E 311. Engineering Data Analysis 3 cr.
Methodology and techniques associated with identifying and analyzing industrial data. Prerequisite: MATH 192G.

I E 316. Methods Engineering 3 cr. (2+3P)
Methods analysis and design. Work measurement techniques. Job evaluation and wage incentive methods. Prerequisite: I E 311.

I E 330. Environmental Management Seminar I 1 cr.
Survey of practical and new developments in hazardous and radioactive waste management provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: C E 330, CH E 330, E S 330, E T 330, M E 330 and WERC 330

I E 351. Applied Problem Solving in Industrial Engineering 3 cr.
Application of computational techniques to engineering problems including the use of commercial programs in statistics and applied mathematics. Corequisite: I E 311. Restricted to majors.

I E 361. Physical Distribution Management 3 cr.
Same as MKTG 361.

I E 363. Business Logistics Planning 3 cr.
Same as MKTG 363.

I E 365. Quality Control 3 cr.
Statistical analysis of quality in manufacturing. Acceptance sampling and control charts. Prerequisite: I E 311 or equivalent.

I E 375. Manufacturing Processes II 3 cr.
Review of basic manufacturing processes. Advanced topics in casting, forming, machining and joining; major process parameters; economics of processes. Prerequisite: I E 217 or E T 217.

I E 382. Business for the Practicing Engineer 3 cr.
Business tools and skills, including technology commercialization, patent applications, preparing a technology-oriented business plan, reading and constructing financial documents, modeling and understanding markets, e-commerce, OFO, concurrent engineering, engineer’s role in the global economy, and engineer’s impact on product design and cost. Prerequisite: engineering major, junior level or above.

I E 400. Undergraduate Research 1-3 cr.
May be repeated for a maximum of 6 credits. Prerequisite: consent of faculty member.

I E 411. Occupational Safety 3 cr.
Practical methods to improve safety in the workplace. Topics include OSHA and other regulations, hazard recognition, assessment and control, industry standards, risk assessment and safety management. Material is applicable to a variety of workplace settings. This course is intended for College of Engineering students who have completed their lower-division requirements in mathematics, engineering, technology, and basic science. Same as IE 561 with differential assignments. Prerequisite: Junior standing.

I E 413. Engineering Operations Research I 3 cr.
Deterministic operations research modeling including linear and integer programming. Prerequisite: MATH 192G.

I E 415. Stochastic Processes Modeling 3 cr.
Introduction to the use of stochastic processes in the modeling of physical and natural systems. Topics include use of generating functions, conditional probability and expectation, Poisson processes, random walk models, Markov chains, branching processes, Markov processes, and queuing processes in an applied setting. Prerequisite: I E 311 or equivalent.

Probabilistic operations research modeling, including queuing systems and their optimization; Markov chains. Prerequisite: I E 311.

I E 424. Manufacturing Systems 3 cr.
Organization and functions of manufacturing planning and control systems including forecasting, MRP, capacity planning, JIT systems, scheduling, and inventory control. Prerequisite: I E 311.

I E 430. Environmental Management Seminar II 1 cr.
Survey of practical and new developments in environmental management field, hazardous and radioactive, waste management, and related health issues, provided through a series of guest lectures and reports of ongoing research. Restricted to: Main campus only. Crosslisted with: C E 430, CH E 430, E E 430, E S 430, E T 430, M E 430 and WERC 430

Discounted cash flows, economics of project, contract and specifications as related to engineering design. Same as CH E 451.

I E 453. Leadership and Motivation 3 cr.
Theories of leadership and motivation. Motivational programs for complex organizations. Relationships between organizational power, authority, and management styles. Prerequisite: MGT 307 or consent of instructor. Same as MGT 453.

I E 460. Evaluation of Engineering Data 3 cr.
Analysis of engineering systems possessing variability, employing regression, analysis of variance, distribution theory, and experimental design methods. Prerequisite: I E 311 or equivalent.

I E 466. Reliability 3 cr.
Application of statistical theory to engineering reliability estimation, reliability improvement, and the analysis of reliability test data. Prerequisite: I E 311 or equivalent.

I E 467. Discrete-Event Simulation Modeling 4 cr.
Basic modeling concepts, organizations of simulations, input data analysis, random variate generation, simulation design and analysis, model validation, output analysis, and management of simulations. Differentiated graduate assignments. Prerequisite: I E 311 or equivalent. Same as I E 567.

I E 468. Advanced Discrete-Event Simulation Applications 3 cr.
Semester long project involving development and application of advanced simulation skills. Prerequisite: I E 467. Same as I E 568.

I E 476. Industrial Systems Control 3 cr. (2+3P)
Introduction to fundamental concepts of systems control. Emphasis on information flows and how they affect safety, quality, and cost. Laboratory exercises reinforce these concepts, using simple electro-mechanical systems as models of real-world systems. Students complete laboratory project demonstrating their mastery of the basic principles.

I E 477. Ergonomics in Manufacturing Systems 3 cr.
Ergonomic analysis applied to manufacturing environment. Covers: task analysis, workplace assessment and design, computer-integrated manufacturing, and legal/regulatory issues in manufacturing task and workplace design.

I E 478. Facilities Planning and Design 3 cr.
Plant location methods, total process analysis, process integration, materials handling analysis, and traditional and computerized plant layout methodologies. Prerequisite: I E 316. Corequisite: I E 424.

I E 479. Integrated Manufacturing 3 cr.
Automated process planning as a link between CAD and CAM. Emphasis on information flows and modeling concepts, design data analysis, feature recognition and generative planning. Prerequisite: knowledge of a programming language or consent of instructor. Same as I E 579.

I E 480. Senior Design 3 cr. (2+3P)
Multi-disciplinary team design project for external clients. Involves semester-long activities including major design report and presentation. Prerequisites: senior standing, I E 467.

I E 482. Concepts in Computer Integrated Manufacturing 3 cr. (2+2P)
Same as E T 482, M E 482.

I E 485. Seminar 1 cr.
Selected topics. Orientation for professional practice. Prerequisite: senior standing.

I E 490. Selected Topics 1-3 cr.
Prerequisite: consent of the head of the department. May be repeated for a maximum of 9 credits.

ICT- INFORMATION AND COMMUNICATION TECHNOLOGY
ICT 320. Applications Software for Technologists 3 cr.
Use of existing software packages for technology application. Prerequisite(s): junior standing.
ICT 339. Computer Forensics 3 cr.
The legal, regulatory, and technical aspects of computer forensics. Topics include: current law; privacy legislation; chain of evidence; creating a computer incident response team (CIRT); and the extraction, preservation, analysis, and presentation of computer-related evidence. Prerequisite(s): Junior standing.

ICT 345. Computer Hardware Fundamentals 3 cr.
Computer hardware fundamentals including architecture, interfacing, peripherals, troubleshooting, system upgrades, and maintenance. Prerequisite(s): Junior standing.

ICT 352. Software Programming for Information and Communication Technology 3 cr.
Computer programming techniques for information and communication technology topics.

ICT 362. Software Technology II 3 cr.
A continuation of topics from ICT 262 that are directed toward more advanced software development. Topics include problem analysis, object oriented, structured logic, and development concepts. Prerequisite(s): ET 262 or ICT 352.

Topics presented from the point of view of the network administrator include computer network design and applications from LAN to WAN to the Internet, office LANs, cable certification, switches, routers, Windows server, TCP/IP networks, network protocols, network diagnostics, campus network and Internet routing, the OSI layers from physical to transport. Prerequisite(s): Junior standing.

ICT 435. Senior Project or Internship 3 cr.
Advanced ICT Project or Internship. Normally taken during last semester of the program. Prerequisite(s): ICT 462 and ICT 377.

ICT 450. Advanced Topics in Information and Communication Technology 3 cr.
Addresses the latest advances and topics in information and communication technology. Prerequisite(s): ICT 362.

The design, analysis and implementation of security systems and subsystems including threat detection and response, information and communications, security, and physical protection. Prerequisite(s): Junior standing.

ICT 457. Introduction to Information Security Technology 3 cr.

ICT 458. Database Design and Applications 3 cr.

ICT 460. Advanced Topics in Multimedia Technologies 3 cr.
Addresses the latest multimedia technology advances and how they apply to the information and communication technology fields. Prerequisite(s): ICT 362 or ET 362.

Concepts relating to operating systems applications and interfacing with an introduction to systems administration. Setup and control of web servers and all common UNIX tasks. Prerequisite(s): ICT 362 or ET 362.

ICT 463. Computer Systems Administration 3 cr.
A continuation of topics in computer systems administration from ICT 462. Prerequisite(s): ICT 462 or ET 462.

ICT 477. Computer Networking II 3 cr.
Advanced concepts in computer network design and applications including managing the campus networks, virtual LANs (VLAN), network security, wireless networks, high-speed optical networks, voice over IP, and Linux networking. Prerequisite(s): ICT 377 or ET 377.

JOUR- JOURNALISM AND MASS COMMUNICATION

In order to enroll in JOUR 110, students must pass the department’s Grammar-Spelling-Punctuation Test.

JOUR 105G. Media and Society 3 cr.
Functions and organization of the mass media system in the United States; power of the mass media to affect knowledge, opinions, and social values; and the impact of new technologies.

JOUR 110. Introduction to Mass Media Writing 3 cr. (2+2P)
Covers preparation of copy for print, broadcasting, advertising, and public relations. Prerequisite: passage of GSP test.

JOUR 210. Print Newswriting 3 cr. (2+2P)
Intensive laboratory practice in writing news for print media. Prerequisite: JOUR 110.

JOUR 300. Introduction to Advertising 3 cr.
Role of advertisements and commercials in marketing of goods, services, and organizations. Creative process, strategic planning media, message design, consumer behavior, and social issues of advertising.

JOUR 302. Broadcast Studio Operations 3 cr.
Workshop instruction on broadcast television studio equipment. Includes practical experience through crew assignments at KRWG-TV, a PBS station.

JOUR 306. Feature Writing for magazines and Newspapers 3 cr.
The preparation of feature stories for newspapers and magazines. How to develop a variety of stories, research topics, interview sources, polish writing and market work. Prerequisite: JOUR 210. May be repeated for a maximum of 6 credits.

JOUR 307. Television Production 3 cr.
Television production techniques from director’s point of view. Extensive practice directing actual TV productions.

JOUR 310. Intermediate Print Reporting 3 cr.
News writing and reporting with extensive practice in print media. Discussion of reporriteral responsibility and news values. Prerequisite: JOUR 210.

JOUR 312. Creative Strategy and Copywriting 3 cr.
Creative process, strategic thinking, and principles of advertising in execution of copy, storyboards, and layouts for clients. Prerequisite: JOUR 210 and JOUR 300.

JOUR 313. Radio Reporting 3 cr. (2+4P)
Writing, editing, and announcing radio news; introduction to basic radio production. Prerequisite: JOUR 210.

JOUR 314. Television Reporting 3 cr. (2+4P)
Writing, editing, producing, and announcing of TV news. Prerequisite: JOUR 313.

JOUR 317. News Editing 3 cr. (2+2P)
Extensive, directed practice in various aspects of computer editing for printed publication. Headline writing, copy editing, design, and layout. Prerequisite: JOUR 210.

JOUR 319. Basic Photography for the Journalist 3 cr.
Basic camera operation, photjournalistic techniques, picture page production, and black and white darkroom experience. Thirty-five millimeter or equivalent camera needed.

JOUR 320. Photojournalism 3 cr.

JOUR 321. Print Media Graphic Design 3 cr.
Concepts and skills in design, graphics and production for newsletters, newspapers, magazines, and other publications. Prerequisite: JOUR 210.

JOUR 350. History of Mass Media 3 cr.
Historical overview of mass media with emphasis on roots of journalism, technological developments, and American role in international media.

JOUR 374. Principles of Public Relations 3 cr.
Communications techniques and public relations applications. Preparation of material by public relations professionals for mass media use. Prerequisite: JOUR 210.

JOUR 377. Mass Media Ethics 3 cr.
Philosophical and moral examination of problems relating to mass media. Use of case study method to analyze media situations; development of framework for media professionalism.

JOUR 380. Women and the Mass Media 3 cr.
Portrayal and participation of women in mass media from colonial to contemporary times. Same as W S 450.

JOUR 399. New Mexico Law 3 cr.
Same as C J 399, GOVT 399, HIST 399, and SOC 399.
JOUR 400. Senior Seminar in Journalism 3 cr.
Portfolio preparation and evaluation with assistance in career seeking and
graduate school application for journalism seniors in graduating semester.

JOUR 407. Media Internship 3 cr.
Paid supervised work with a mass communications organization. Students
who take JOUR 407 may not take JOUR 408. Prerequisite: consent of intern-
ship coordinator.

JOUR 408. Media Practicum 1-3 cr.
Unpaid supervised work with a mass communications organization. May
be repeated for a maximum of 3 credits. Prerequisite: consent of internship
coordinator.

JOUR 412. Documentary Photojournalism 3 cr.
Discussion of documentary photojournalism; preparation of a documentary
photojournalism essay. Prerequisites: JOUR 319 and consent of instructor.
May be repeated for a maximum of 6 cr.

JOUR 414. RTV Scriptwriting and Announcing 3 cr.
Preparation of scripts for various types of broadcast programs; delivery
of scripted materials; vocal techniques, nonverbal and body movements.
Prerequisite: JOUR 313 or JOUR 314.

JOUR 423. Computer-Assisted News Reporting 3 cr. (2+2P)
Advanced news reporting techniques, utilizing sources such as computer-
ized databases. Development of in-depth multiple-source stories. Prereq-
usite: JOUR 310.

JOUR 425. Media Planning and Buying 3 cr.
Covers the principles of media planning for an ad campaign and proce-
dures for purchasing ad time or space.

JOUR 430. Electronic Field Production 3 cr. (2+2P)
Overview of technical and aesthetic skills needed to execute videotaped
on-location productions. Field ideography, script development, on-location
audio and videotape editing. Prerequisites: JOUR 314 and JOUR 307.

JOUR 450. Media Management 3 cr.
Explores leadership concepts and basic managerial functions necessary
to operate a mass communications organization such as radio, TV, news-
paper, magazine, or advertising agency.

JOUR 460. Public Relations Promotion in Sports 3 cr.
Examination of sports as a business and how public relations promotion is
executed in professional sports franchises. Prerequisite: JOUR 310.

JOUR 474. Community Journalism 3 cr.
Examines the role that media play and how effective civic or public journal-
ism requires interpersonal communication between media and township.
Prerequisite: JOUR 210.

JOUR 476. Public Relations Cases and Problems 3 cr.
The study and solving of problems in the mass media industry. Prerequisite:
JOUR 374.

JOUR 482. Broadcast Business and Regulation 3 cr.
Station organization and management of commercial and public radio and
Television; FCC regulations; Programming, sales, ratings.

JOUR 484. Public Opinion 3 cr.
Seminar on forces which help form public opinion; individual projects in
attitude measurement; measuring effectiveness of mass communication.

JOUR 489. Media Research 3 cr.
Examination of the role of empirical research in solving mass communica-
tion problems. Survey techniques, field studies, content analysis, data
analysis.

JOUR 490. Advertising Campaigns 3 cr.
Capstone course utilizing all previous instruction to create and develop
plans for a long-term national or local advertising campaign. Prerequisites:
JOUR 312 or JOUR 425 or consent of instructor.

JOUR 493. Mass Communications Law 3 cr.
Examination of legal issues relating to mass media in the United States.
Invasion of privacy, libel, sedition, copyright, and advertising regulation.
Same as COMM 493, GOVT 493.

JOUR 494. Special Topics 3 cr.
Specific subjects to be announced in the Schedule of Classes.

JOUR 495. Mass Communication Theory 3 cr.
Theoretical approaches to mass communications. Examination of media
effects, audiences, media socialization.

JOUR 499. Independent Study in Mass Communications 1-3 cr.
Individual study directed by consenting instructor with prior approval of
department head. Prerequisites: 2.5 GPA and consent of instructor. May be
repeated for a maximum of 6 credits.

JPNS- JAPANESE

JPNS 111. Elementary Japanese I 4 cr.
Japanese language for beginners.

JPNS 112. Elementary Japanese II 4 cr.
Japanese language for beginners. Prerequisite: grade of C or better in
JPNS 111 or consent of instructor.

JPNS 211. Intermediate Japanese I 3 cr.
Speaking, reading, and writing the Japanese language. Prerequisite: grade
of C or better in JPNS 112 or consent of instructor.

JPNS 212. Intermediate Japanese II 3 cr.
Speaking, reading, and writing the Japanese language. Prerequisite: grade
of C or better in JPNS 211 or consent of instructor.

JPNS 313. Intermediate Composition and Grammar 3 cr.
Exercises in written Japanese with emphasis on advanced grammatical
features. Prerequisite: JPNS 212 or consent of instructor.

JPNS 320. Oral Practicum in Japanese 1-3 cr.
Service training for facilitators leading informal conversation groups in
Japanese. Prerequisites: fluency in Japanese and consent of instructor.
May be repeated for a maximum of 4 credits.

JPNS 325. Intermediate Conversational Japanese 3 cr.
Japanese conversation through intensive oral practice; emphasis on vocabu-
larv acquisition and pronunciation. Prerequisite: JPNS 212 or con-
sent of instructor.

JPNS 449. Special Problems 1-3 cr.
Directed readings for graduate students in their specific fields to satisfy
language requirements for master s or doctoral programs. Course subtitled
in the Schedule of Classes. May be repeated to a maximum of 6 credits.

L A- LAGUNA ACOMA STUDIES

LA 101. Introduction to Laguna/Acoma Studies 3 cr.
Covers geography, demography, institutions of modern Laguna and Acoma
pueblos with historical overview.

L SC- LIBRARY SCIENCE

Individualized, self-paced projects for advanced students.

L SC 100. Introduction to Library and Information Service Careers 3 cr.
Overview of careers in the library and information field, including history
and development, responsibilities of library personnel, types of libraries
and services, and technology and trends. Restricted to: Dona Ana campus
only.

L SC 110. Reference and Information Resources I 3 cr.
Overview of reference services. Introduction to, and evaluation of, basic
information resources (both print and electronic) and their application in
library and information centers.

L SC 120. Cataloging Basics I: Descriptive Cataloging 3 cr.
Introduction to descriptive cataloging. Restricted to: Dona Ana campus
only.

L SC 125. Cataloging Basics II: Classification and MARC Cataloging 3 cr.
Continuation of descriptive cataloging basics. Introduction to subject
analysis, classification and MARC coding. Restricted to: Dona Ana campus
only.

L SC 130. Introduction to Technical Services in Libraries and Information
Centers 3 cr.
Introduction to technical services in libraries and information centers,
including acquisitions, binding, cataloging, gifts, and serials. Restricted to:
Dona Ana campus only.

L SC 140. Multimedia Materials and Presentations in Library and Information
Centers 3 cr.
Overview of media formats and equipment. Introduction to desktop pub-
lishing, presentations, and web-page creation applications in libraries and
information centers. Community Colleges only.

L SC 145. Marketing Your Library 1 cr.
The process of creating and implementing a marketing plan that focuses
on the needs of library patrons. Restricted to: Dona Ana campus only.

L SC 150. Library Services for Children and Young Adults 3 cr.
Library services for children and young adults with an overview of materi-
als, programs, and services for this population. Restricted to: Dona Ana
campus only.
L SC 155. Award Winning Books for Children 1 cr.
A review of book awards and how to integrate award winning books into school curriculum or public school programming. Community Colleges only.

L SC 156. Boys and Books 1 cr.
This course looks at why, in general, boys are less interested in books than girls. We will discover ways librarians can encourage boys to read and develop activities and programs which entice them to do so. Students will also be reading some books recommended for boy readers. Restricted to: Dona Ana campus only.

L SC 160. Introduction to Public Services in Libraries and Information Centers 3 cr.
Introduction to public services in libraries and information centers, including circulation, inter-library loan, reference media services, special collections, and government documents. Restricted to: Dona Ana campus only.

Skills for interacting with library patrons from diverse backgrounds and in challenging environments. Restricted to: Dona Ana campus only.

L SC 168. Managing Library Volunteers 1 cr.
Covers recruitment, training and development, and management of library volunteers. Restricted to: Dona Ana campus only.

L SC 170. Library Science Student Organization 1 cr.
Promotes personal growth and leadership development through networking, service, and involvement. May be repeated for a maximum of 6 credits. Graded: S/U. Restricted to: Dona Ana campus only.

L SC 173. Library Science Internship 1 cr.
Student will volunteer at an approved library conference. Graded: S/U. Restricted to: Dona Ana campus only.

L SC 175. Civic Involvement in Library Science 1-3 cr.
Involvement in an organized community service project or group with a library or information technology component. Promotes awareness of volunteer and community service opportunities. May be repeated for a maximum of 6 credits. Graded: S/U. Restricted to: Dona Ana campus only.

Principles of identifying, selecting, acquiring, managing, and evaluating resources for libraries and information centers. Restricted to: Dona Ana campus only.

L SC 201. Public Libraries 3 cr.
A study of the American public library and its place in communities. Topics may include history, philosophy, and standards, operations and procedures, governance, funding, personnel materials, user services, outreach and advocacy. Restricted to: Dona Ana campus only.

An examination of the functions of the library within the higher education environment. Topics may include history, philosophy, and organization, operations and procedures, governance, funding, personnel, materials, outreach, and user services. Restricted to: Dona Ana campus only.

L SC 203. School Library Media Specialist 3 cr.
Principles and practice of managing the school library media center, with an emphasis on its specific educational mission. Collection development, classes and lesson plans, public relations, administrative procedures, and use of technology. Restricted to: Dona Ana campus only.

L SC 204. Special Libraries and Information Centers 3 cr.
An examination special libraries and information centers. Topics may include management, user services, technical services, facilities, and types of collections. Restricted to: Dona Ana campus only.

L SC 205. Preservation Basics for Libraries 1 cr.
Basic preservation tools and techniques for library sources. Restricted to: Dona Ana campus only.

L SC 210. Technology Planning Libraries and Information Centers 3 cr.
Overview of computer applications in libraries and information centers, including automated systems and electronic resources; introduction to evaluation and technology and writing a technology plan. Restricted to: Dona Ana campus only.

L SC 211. Electronic Privacy 1 cr.
An Introduction to the potential dangers of revealing personal information electronically and how libraries can inform and alert to protect the privacy of library computer users. Restricted to: Dona Ana campus only.

L SC 220. Innovative Technology Applications for Libraries and Information Centers 3 cr.
A look at uses for innovative technologies in libraries and information centers. Topics may include blogs, wikis, podcasting and virtual reality libraries. Restricted to: Dona Ana campus only.

L SC 221. Cooperative Experience I 1-3 cr.
Student is employed in an approved work site and rated by the employer and instructor. Each credit requires a specified number of hours of on-the-job work experience. Restricted to majors. Consent of instructor required. Graded: S/U. Prerequisite(s): Consent of instructor. Restricted to: Dona Ana campus only.

L SC 222. Cooperative Experience II 1-3 cr.
Continuation of L SC 221. Each credit requires specified number of hours of on-the-job work experience. Restricted to majors. Consent of instructor required. Graded: S/U. Prerequisite(s): L SC 221 and consent of instructor. Restricted to: Dona Ana campus only.

L SC 230. Issues and Ethics in Libraries and Information Centers 3 cr.
Discussions of current and continuing challenges to effective library and information service. Topics may include copyright, censorship, intellectual freedom, Internet filtering, problem patrons, security, or other current issues. Restricted to: Dona Ana campus only.

L SC 231. Copyright Basics for Libraries 1 cr.
Copyright definitions and ways that copyright may affect library service. Restricted to: Dona Ana campus only.

L SC 232. Disaster Planning for Libraries 1 cr.
Preparing for and responding to library disasters. Restricted to: Dona Ana campus only.

L SC 233. Library Privacy and Confidentiality 1 cr.
Covers the USA Patriot Act and other laws that apply to library user privacy. Restricted to: Dona Ana campus only.

Philosophical and practical information related to library policies about access to library materials. Restricted to: Dona Ana campus only.

L SC 235. Library Security and Safety 1 cr.
Strategies for safety and security planning in libraries. Restricted to: Dona Ana campus only.

L SC 236. Banned Books 1 cr.
Banned books, selection policies, and responding to challenges. Restricted to: Dona Ana campus only.

L SC 240. Internet Resources and Research Strategies 3 cr.
Introduction to retrieving and evaluating information found on the Internet and in selected Internet-accessible databases. Restricted to: Dona Ana campus only.

L SC 250. Reference and Information Resources II 3 cr.
Evaluation and use of specialized information resources (print and electronic) in areas such as business, law, medicine, the sciences, social sciences, and government documents. Restricted to: Dona Ana Community College only.

L SC 255. Special Topics 1-3 cr.
Special topics to be announced in Schedule of Classes. May be repeated for a maximum of 12 credits. Restricted to: Dona Ana campus only.

L SC 260. Cataloging Non-Book Formats 3 cr.
Introduction to cataloging of various non-book formats and MARC coding. Restricted to: Dona Ana campus only.

An introduction to U.S. government documents and the SuDoc classification system. Restricted to: Dona Ana campus only.

L SC 262. State and Local Documents 1 cr.
An introduction to state and local documents in library collections. Restricted to: Dona Ana campus only.

L SC 265. Cataloging Music Materials 3 cr.
Overview of the basics of cataloging music materials including scores, CD’s, videos, and DVD’s using AACR2 and MARC coding. Designed for the cataloger with little or no music cataloging experience. Restricted to: Dona Ana campus only.

L SC 270. Library Science Capstone 3 cr.
A culmination of all technical courses that are required to receive an Associate of Applied Science from the program centering around the completion of a library related project. Discussions on the role of paraprofessionals in libraries. Restricted to: Dona Ana campus only.

L SC 275. Fundamentals of Library Supervision 3 cr.
An introduction to supervision of library employees, including student assistants, to create a productive workplace. Restricted to: Dona Ana campus only.

L SC 276. Building Specialized Collections for Latinos 1 cr.
Building a library collection to serve Latino populations. Restricted to: Dona Ana campus only.
LANG- LANGUAGES
LANG 111. Beginning Language I 4 cr.
Developing language skills through study abroad for languages not offered at NMSU main campus. Specific languages to be identified with course subtitles. Prerequisite: Language placement exam or consent of the instructor. Main campus only.
LANG 112. Beginning Language II 4 cr.
Developing language skills through study abroad for languages not offered at NMSU main campus. Specific languages to be identified with course subtitles. Prerequisite: Language placement exam or consent of instructor. Main campus only.
LANG 113. Beginning Indigenous Language I 3 cr.
Developing language skills. Language identified in Schedule of Classes. Prerequisite: consent of instructor.
LANG 211. Intermediate Language I 3 cr.
Developing language skills through study abroad for languages not offered at NMSU main campus. Specific languages to be identified with course subtitles.
LANG 212. Intermediate Language II 3 cr.
Developing language skills through study abroad for languages not offered at NMSU main campus. Specific languages to be identified with course subtitles.
LANG 213. Intermediate Indigenous Language I 3 cr.
Development of language skills and vocabulary activities to strengthen command of language. Language identified in Schedule of Classes. Prerequisite: LANG 113 or consent of instructor.
LANG 214. Intermediate Indigenous Language II 3 cr.
Development of language skills and vocabulary development. Discussion of problematic areas in grammar. Language identified in Schedule of Classes. Prerequisite: LANG 213 or consent of instructor.
LANG 449. Special Problems 1-3 cr.
Directed reading/translation in a specific field to satisfy language requirement for master's or doctoral programs. Topic to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.
LANG 451. Special Topics 1-3 cr.
Selected topics relating to cultures or literatures of a specific country. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.
LANG 453. Independent Studies 1-3 cr.
Individualized, self-paced projects for advanced students. Prerequisite: consent of instructor. May be repeated under different subtitles for a maximum of 6 credits.

LAWE- LAW ENFORCEMENT
LAWE 201. Introduction to Juvenile Delinquency 3 cr.
An introductory overview of the juvenile justice system of due process, custody, detention and release. Note: course does not meet upper division requirements towards completion of Bachelor of Science in Criminal Justice. Community Colleges Only.
LING-LINGUISTICS
LING 200G. Introduction to Language 3 cr. Traditional fields of language study (sound, grammar, meaning) and newer ones (language as social behavior, language and cognition, language variation, animal communication).

LING 301. Introduction to Psycholinguistics 3 cr. Same as PSY 301.

LING 302V. Language and Society 3 cr. Study of how social identity, including such factors as ethnicity, age, sex, education, power, and socio-economic class, is expressed in language systems and how misunderstandings arise between groups. Research skills are emphasized.

LING 303. The Formal Structure of Language 3 cr. Forms of linguistic semantic, syntactic, and phonological organization. Prerequisite: LING 200G.

LING 405. Topics in Linguistics 3 cr. Selected linguistics topics subtitled in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits under different subtitles.

LING 451. Independent Studies in Linguistics 1-3 cr. Individual or group study of selected topics. To be identified by subtitle. Prerequisites: LING 200G and prior arrangement with faculty supervisor. May be repeated for a maximum of 6 credits.

M E - MECHANICAL ENGINEERING
M E 102. Mechanical Engineering Orientation 1 cr. Emphasis on tours of M E labs and NMSU facilities that illustrate possible career paths for mechanical engineers. Students are introduced to department faculty, student organizations, and support services at NMSU. Topics include role of good communication skills, using modern technology, team building, and intellectual property. Students are advised in planning balance of their academic program. Restricted to majors.

M E 159. Graphical Communication and Design 2 cr. (1+3P) Sketching and orthographic projection. Covers detail and assembly working drawings, dimensioning, tolerance specification, and design projects. Corequisite: MATH 191G.

M E 222. Introduction to Product Development 3 cr. (2+3P) Introduction to modern methods used in the realization of products. Traditional manufacturing processes, such as metal stamping, turning, milling, and casting are reviewed. Modern methods of rapid prototyping and model making are discussed in context of computer-aided design. Techniques for joining metals, plastics, and composites are discussed. Role of quality control is introduced. Prerequisite: M E 159.


M E 240. Thermodynamics 3 cr. First and second laws of thermodynamics, irreversibility and availability, applications to pure substances and ideal gases. Prerequisite: PHYS 215G.


M E 326. Mechanical Design 3 cr. Design methodology and practice for mechanical engineers. Prerequisites: M E 237 and C E 301.


M E 331. Intermediate Strength of Materials 3 cr. Covers stress and strain, theories of failure, curved flexural members, flat plates, pressure vessels, buckling, and composites. Prerequisites: C E 301 and MATH 392.


M E 340. Applied Thermodynamics 3 cr. Thermodynamic cycles, Maxwell relations, Gibbs and Helmholtz functions, mixtures, psychometrics, chemical reactions, chemical equilibrium. Prerequisite: M E 240.


M E 345. Experimental Methods I 3 cr. (2+3P) Emphasis on experimental techniques, basic instrumentation, data acquisition and analysis, and written presentation of results. Includes experiments in dynamics and deformable body mechanics. Prerequisites: MATH 392, M E 237, and M E 240. Corequisite: C E 301.

M E 400. Undergraduate Research 1-3 cr. Performed with the direction of a department faculty member. May be repeated for a maximum of 6 credits. Prerequisite: consent of faculty member.


M E 405. Special Topics 3 cr. Topics of modern interest to be offered by the departmental staff. Prerequisite: consent of instructor.


M E 426. Design Project Laboratory I 3 cr. (6P) Students address a design problem in which innovation and attention to detail are emphasized. Solution of the problem entails applications of mechanics and/or the thermal sciences. Prerequisites: M E 326 and M E 338. Corequisites: M E 425 and M E 341.

M E 427. Design Project Laboratory II 3 cr. (6P) Continuation of M E 426. Prerequisite: M E 426.


M E 443. Internal Combustion Engines 3 cr. Cycles, characteristics, and principles of combustion for air breathing engines. Course taught on an as-needed basis. Prerequisite: M E 340.

M E 445. Experimental Methods II 3 cr. (2+3P) Emphasis on experimental techniques, instrumentation and data acquisition in fluid mechanics, heat transfer, and thermodynamics. Laboratory results will be presented in written and verbal formats. Prerequisites: M E 338, M E 340, M E 341, and M E 345.
M E 449. Mechanical Engineering Senior Seminar 1 cr.
Senior seminar course covering topics relevant to graduating mechanical engineering seniors (job placement, interviewing techniques, resume preparation). Prerequisite: senior standing.

M E 452. Introduction to Automation and Control System Design 3 cr. (2+3P)
Control system design and implementation. Emphasis on practical applications of traditional control algorithms to mechanical engineering applications in thermofluid systems and mechanical systems. Design of feedback analog and digital control systems. Introduction to robots and automation. Lab assignments include programming industrial robotic and automation systems.

M E 460. Applied Finite Elements 3 cr.
Introduction to the practical aspects of structural finite element modeling. Course focuses on providing a working knowledge of how to effectively incorporate finite element techniques into the design process. Prerequisite: M E 425.

M E 461. Polymers, Their Composites, and Mechanical Behavior 3 cr. (2+3P)
Principles of polymerization, polymer properties and polymer characterization. The fabrication and physical properties of polymer-based composite materials. Synthesis and characterization of polymers and polymeric composites. This course will be taught on an as-needed basis. Prerequisites: CHEM 112G and MATH 191G. Same as CH E 461.

M E 463. Low Speed Aerodynamics 3 cr.
Introduction to incompressible aerodynamics using potential flow and boundary layer theories. Prerequisites: M E 329, M E 338.

M E 473. Compressible Flow 3 cr.
Development and application of the principles of compressible flow. Emphasis upon one-dimensional, nonviscous flow. Prerequisites: M E 338, M E 340.

M E 490. Nuclear Systems 3 cr.
Fundamentals of nuclear energy, systems, design, and analysis. Applications of nuclear energy in power production. Survey of modern nuclear systems. Prerequisite: MATH 192G or consent of instructor.

M E 492. Concepts in Computer-Integrated Manufacturing 3 cr. (2+2P)
Same as I E 482 and E T 482.

M E 484. Biomachanics 3 cr.
Comprehensive coverage of mechanical properties of living tissues and fluids, and the relationship between structure and function in living tissues and organs. Students understand the importance of the application of engineering tools in the study of biological tissue mechanics. Specific topics include structure, function, mechanical properties of biological tissues, and mechanisms of human movement. Prerequisites: M E 237, M E 329, and PHYS 216G.

M E 487. Mechatronics 3 cr. (2+3P)
Introduction to the analysis and design of computer-controlled electromechanical systems, including data acquisition and conversion, force and motion sensors, actuators, mechanisms, feedback control, and robotic devices. Students required to work in teams to construct and test simple robotic systems. Prerequisites: E E 201, and M E 345.

M E 499. Advanced Topics 1-3 cr.
Problems in mechanical engineering. May be repeated for a maximum of 6 credits. Prerequisite: consent of department head.

M SC - MILITARY SCIENCE

M SC 110. Introduction to Military Science 2 cr. (2+1P)
Concepts of leadership, including basic drill, fitness sessions, rappelling, first aid, map reading, and basic marksmanship. Optional physical fitness sessions and weekend exercises.

M SC 111. Introduction to Leadership 2 cr. (2+1P)
Learning and application of leadership, as well as relating organizational ethics to effective leadership using communication skills to improve individual performance. Optional physical fitness sessions and weekend exercises.

M SC 210. Self/Team Development 3 cr. (3+1P)
Learning and application of leadership skills to building effective teams, using oral/written skills, planning, and coordination of group efforts. Include advanced first aid, land navigation, and basic military tactics. Leadership Lab and three physical fitness sessions per week required.

M SC 211. Leadership in Action and Team Building 3 cr. (3+1P)
Individual and team aspects of military tactics in small unit operations. Use of radio, movement, planning for safety/security and pre-execution checks. Continued leadership development and techniques for training others. Leadership Lab and three physical fitness sessions per week required.

M SC 250. Leadership Internship I 4 cr.
Six-week summer internship in leadership and management conducted at an Army installation. Open only to students with a minimum of 54 credit hours completed. Students must also meet departmental qualifications. Application for internship must be submitted during school year prior to internship. Graded S/U.

M SC 310. Leading Small Organizations I 3 cr.
Practical opportunities to lead small groups in situations of graduated complexity. Use of small unit defensive tactics and opportunities to conduct training for lower division students. Leadership Lab M SC 310L, three physical fitness sessions per week, and weekend exercises required. Prerequisite: must meet Basic Course of Military Science requirements. Corequisite: M SC 310L.

M SC 310 L. Advanced Course Leadership Laboratories 1 cr.
Planning, coordination, execution and evaluation of training and activities with basic course students and ROTC program. Students develop and refine leadership skills in positions of responsibility. Open only to students taking M SC 310. Corequisite: M SC 310.

M SC 320. Leading Small Organizations II 3 cr.
Delegation and supervision based on leadership case studies that require planning and adaptation to the unexpected in organizations under stress. Use of ethical decision making to enhance team performance. Leadership Lab M SC 310L, three physical fitness sessions per week, and weekend exercises required. Prerequisite: M SC 310 or consent of instructor. Corequisite: M SC 320L.

M SC 320 L. Leading Small Organization Lab 1 cr.
Practice and refinement of leadership skills. Different roles assigned for students at different levels in the program. Planning, coordination, execution and evaluation of training and activities with basic course students and ROTC program. Open to students taking M SC 320. Corequisite: M SC 320.

M SC 325. Advanced Directed Studies 1-3 cr.
Directed individual study of advanced subjects. Prerequisite: GPA 2.5 or better. May be repeated for a maximum of 12 credits. No S/U option.

M SC 390. Leadership Internship II 6 cr.
Six-week paid summer internship conducted at an Army installation. Leadership-course environment is highly structured and demanding, and stresses leadership at small-unit levels under varying conditions. Evaluations during this required internship weigh heavily in type of commission and branch assignment offered. Prerequisites: M SC 310, M SC 310L, and M SC 320, and M SC 320L. Graded S/U.

M SC 401. Leadership Challenges and Goal Setting 3 cr.
Planning, conducting and evaluating activities of the ROTC cadre organization, including the articulation of goals, and actuation of plans to attain them. Assessment of organizational skills and development of strategies to improve group cohesion through learning and application of Army policies and programs. M SC 401L, three physical fitness sessions per week, and weekend exercises required. Prerequisite: M SC 320 or consent of instructor. Corequisite: M SC 401L.

M SC 401 L. Advanced Course Leadership Laboratories 1 cr.
Different roles assigned for students at different levels in the program. Practice and refinement of leadership skills. Planning coordination, execution and evaluation of training and activities with basic course students and ROTC program. Open only to students taking M SC 401. Corequisite: M SC 401.

M SC 402. Transition to Lieutenant 3 cr.
Continues methodology from M SC 401. Identification and resolution of ethical dilemmas along with counseling and motivation techniques. Examination of tradition and law as these issues relate to the Army officer and prepare the student to be a successful Army lieutenant. Leadership Lab M SC 402L, three physical fitness sessions per week and weekend exercises required. Prerequisite: M SC 401 or consent of instructor. Corequisite: M SC 402L.

M SC 402 L. Transition to Lieutenant Lab 1 cr.
Different roles assigned for students at different levels in the program. Practice and refinement of leadership skills. Planning, coordination, execution, and evaluation of training and activities with basic course students and ROTC program. Open only to students taking M SC 402. Corequisite: M SC 402.
MATH 111G. Fundamentals of Elementary Math II 3 cr. (2+2P)
Intuitive development of elementary geometry, measurement, and statistics. Prerequisite: C or better in MATH 111.

MATH 119. Topics in Elementary Mathematics 1-3 cr.
Supplemental work for students seeking entrance into the Teacher Education Program. Topics include ratio/proportions, percents, informal geometry, number sense, problem solving, algebra review, and probability/statistics. Requires recommendation of College of Education associate dean. Prerequisites: MATH 112G or MATH 120, and consent of instructor. Graded S/U.

MATH 120. Intermediate Algebra 3 cr.
Linear and algebraic functions as they arise in real world problems. Exponential and logarithmic functions. Equations and inequalities and their solutions considered symbolically, graphically and numerically. Prerequisite: adequate score on the Mathematics Placement Examination (see note above.)

MATH 121G. College Algebra 3 cr.
Fundamental concepts of functions, including algebraic and graphical properties. Fitting functions to data. Finding zeroes and extreme values. Solving systems of equations. Prerequisites: Adequate math placement score or C or better in MATH 120.

MATH 142G. Calculus for the Biological and Management Sciences I 3 cr.
Differential calculus, maxima and minima. The definite integral and anti-derivatives. Applications. Includes a writing component and overview of the historical development of calculus. Prerequisite: C or better in MATH 121G.

MATH 151. The Mathematics of Hydraulic Engineering 3 cr.
A combination of physical, mathematical, and computer simulation models will be developed to explore topics in hydraulic engineering that are central to environmental engineering applications. Same as CE 141. Prerequisite: MATH 121G or consent of instructor.

MATH 152. Chemistry and Mathematics of the Molecular World 3 cr.
Introduction to chemical and mathematical concepts relevant to understanding the molecular world. Topics include atomic and molecular structure, intermolecular forces, physical states of matter, phase transitions, equations of motions, vectors, polynomial equations, and computer-based molecular modeling techniques. Same as CHEM 152. Prerequisite: MATH 121G or consent of instructor.

MATH 154. Questioning Time: Introduction to Special Relativity 3 cr.
An introductory course that explores Einstein’s ideas of special relativity through mathematics, simulations, and literature. Prerequisite(s): Math 120 or high school algebra II. Restricted to: Main campus only. Crosslisted with: PHYS 154

MATH 180. Trigonometry 3 cr.
Trigonometric functions, graphs, identities, inverse functions, polar coordinates, and applications. Complex numbers, curve fitting, roots of polynomials, exponential and logarithmic functions, conics, systems of equations, and matrices. May not be taken for credit by students having credit for MATH 136. Prerequisite: C or better in MATH 121G.

MATH 190G. Trigonometry and Precalculus 4 cr. (3+2P)
Elementary functions used in the sciences with emphasis on trigonometric functions and their inverses. Polar coordinates. Complex numbers and Euler’s formula. Analytic geometry and vectors. Prerequisite: adequate score on Mathematics Placement exam or a C or better in MATH 121G (see note at beginning of this section).

MATH 191G. Calculus and Analytic Geometry I 3 cr.
Algebraic, logarithmic, exponential, and trigonometric functions, theory and computation of derivatives, approximation, graphing, and modeling. May include an introduction to integration. Students must sign up for MATH 191GL in order to enroll in MATH 191G. Prerequisites: MATH 180G.

MATH 191GL Practicum for Calculus and Analytic Geometry I 1 cr. (1P)
One hour supplement to MATH 191G. Students will explore applications of calculus to their respective disciplines and others. Students must sign up for MATH 191G in order to enroll in MATH 191GL. Graded S/U. Prerequisite: MATH 190G.

MATH 192G. Calculus and Analytic Geometry II 3 cr.
Riemann sums, the definite integral, anti-derivatives, fundamental theorems, use of integral tables, numerical integration, modeling, improper integrals, differential equations, series, Taylor polynomials. Students must sign up for MATH 192G in order to enroll in MATH 192G. Prerequisite: MATH 191G.
MATH 192GL. Practicum for Calculus and Analytic Geometry II 1 cr.
One hour supplement to MATH 192G. Students will explore applications of
calculus to their respective disciplines and others. Students must sign up
for MATH 192G in order to enroll in MATH 192GL. Graded S/U. Prerequisite:
MATH 191G.

MATH 200. Directed Study 1-3 cr.
Prerequisite: consent of the instructor. May be repeated for a maximum of
6 credits. Graded S/U.

MATH 210G. Mathematics Appreciation 3 cr.
Mathematics and its role in the development and maintenance of civiliza-
tion. Prerequisites: High school algebra, and an adequate score on the
Mathematics Placement Examination.

MATH 230. Matrices and Linear Programming 3 cr.
Linear algebra, linear programming and network models, with applications
to the behavioral sciences. Prerequisite: C or better in MATH 121G.

MATH 235. Calculus for the Technical Student I 3 cr.
Intuitive differential and integral calculus with applications to engineering.
Prerequisite: C or better in MATH 190G.

MATH 236. Calculus for the Technical Student II 3 cr.
A continuation and extension of the material in MATH 235. Prerequisites: C
or better in MATH 235 or in MATH 192G.

MATH 242. Calculus for the Biological and Management Sciences II 3 cr.
Calculus of functions of several variables, techniques of integration, dif-
erential equations, infinite series. Applications. Prerequisite: C or better in
MATH 142G.

MATH 275G. Spirit and Evolution of Mathematics 3 cr.
Same as HON 275G.

MATH 278. Discrete Mathematics for Computer Science 4 cr. (3+1P)
Same as CS 278. Prerequisite: at least C or better in CS 171.

MATH 279. Introduction to Finite Mathematics 3 cr.
Calculus of vector valued functions, Green's and Stokes' theorems and
applications to computer science. Prerequisite: C or better in MATH 106G.
(See note at beginning of this section.)

MATH 280. Introduction to Linear Algebra 3 cr.
Systems of equations, matrices, vector spaces and linear transformations.
Applications to computer science. Prerequisite(s): Grade of C or better in
MATH 190G.

MATH 291G. Calculus and Analytic Geometry III 3 cr.
Vector algebra, directional derivatives, approximation, max-min problems,
multiple integrals, applications, cylindrical and spherical coordinates,
change of variables. Prerequisite: grade of C or better in MATH 192G.

MATH 292. Calculus and Analytic Geometry IV 3 cr.
Vector calculus, linear algebra, selected topics. Prerequisite: grade of C or
better in MATH 291G or equivalent. Community Colleges only.

MATH 300. Readings 1-3 cr.
A selection of readings and reports in the mathematical sciences, the
breadth and depth of which is deemed to fit the needs of the student. Pre-
requisite: consent of instructor. Graded S/U.

MATH 301. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be
repeated for a maximum of 12 credits.

MATH 308. Supervised College Teaching 1 cr.
Skills for effective tutoring of precalculus mathematics within a math-
ematics learning center environment. Prerequisite: consent of instructor.
Graded S/U.

MATH 311. Fundamentals of Algebra and Geometry I 3 cr. (3+1P)
Covers algebra combined with geometry based on measurements of dis-
ance (metric geometry). Secondary mathematics education majors may
take course as a math elective. MATH 313 does not substitute for other
required math courses. Does not fulfill requirements for major in math-
ematics. Prerequisites: MATH 111 and MATH 112G.

MATH 314. Math and Science with Technology 3 cr.
Experiments involving measurements, primarily in physics; actual outcome
are compared with theoretical results. Secondary math education majors
may take course as a math elective. MATH 314 does not substitute for other
required math courses. Does not fulfill requirements for major in math-
ematics. Prerequisites: MATH 111 and MATH 112G.

MATH 315. Fundamentals of Algebra and Geometry II 3 cr.
Algebra and its applications to geometry, incorporating scientific and
graphing calculator technology. For perspective teachers of upper element-
ary grades, middle and high school. Math 315 does not fulfill requirements
for majors in mathematics. Prerequisite: MATH 313.

MATH 320. Discrete Mathematics 3 cr.
Topics include algorithms and complexity, recursive algorithms, recur-
sence relations, directed and undirected graphs, and trees. Prerequisite:
grade of C or better in MATH 279 or consent of instructor.

MATH 330. Elements of Modern Algebra 3 cr.
Elements of abstract algebra, including groups, rings and fields. Prerequi-
site: C or better in MATH 279 and MATH 280.

MATH 331. Introduction to Analysis 3 cr.
Development of the real numbers, a rigorous treatment of sequences,
limits, continuity, differentiation, and integration. Prerequisite: C or better in
MATH 192G and MATH 279.

MATH 337. Business Applications 3 cr.
Matrix algebra and linear models, vector and matrix norms, applications
to economics and statistics, linear programming, Lagrange multipliers
and applications to economics, introduction to nonlinear programming, game
theory. Computer software (Excel, LINDO and LINGO) will be introduced
for solving numerical problems. Does not fulfill requirements for degrees in
mathematics. Prerequisite(s): C or better in MATH 142G, or in MATH 191G,
or in MATH 235.

MATH 332. Introduction to Numerical Methods 3 cr.
Basic numerical methods for interpolation, approximation, locating zeros of
functions, integration, and solution of linear equations. Computer-oriented
methods will be emphasized. Prerequisites: grade of C or better in MATH
192G and some programming experience.

MATH 333. Introduction to Number Theory 3 cr.
Calculus of vector valued functions, Green's and Stokes' theorems and
applications. Prerequisite: grade of C or better in MATH 291G.

MATH 334. Introduction to Ordinary Differential Equations 3 cr.
Introduction to differential and dynamical systems with emphasis
on modeling and applications. Basic analytic, qualitative and numerical
methods. Equilibria and bifurcations. Linear systems with matrix methods,
real and complex solutions. Prerequisite: C or better in MATH 192G or be
or better in MATH 235.

MATH 391. Vector Analysis 3 cr.
Calculus of vector valued functions, Green's and Stokes' theorems and
applications. Prerequisite: grade of C or better in MATH 291G.

MATH 392. Introduction to Ordinary Differential Equations 3 cr.
Introduction to differential equations and dynamical systems with empha-
sis on modeling and applications. Basic analytic, qualitative and numerical
methods. Equilibria and bifurcations. Linear systems with matrix methods,
real and complex solutions. Prerequisite: C or better in MATH 192G or be
or better in MATH 235.

MATH 400. Undergraduate Research 1-3 cr.
Prerequisite: consent of faculty member. May be repeated for a maximum of
6 credits. Graded S/U.

MATH 401. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May not
be used to fulfill a requirement for the mathematics major. Prerequisite:
Consent of instructor.

MATH 411V. Great Theorems: The Art of Mathematics 3 cr.
Adopts the view of mathematics as art, using original sources display-
ing the creation of mathematical masterpieces from antiquity to the modern
era. Original sources are supplemented by cultural, biographical, and
mathematical history placing mathematics in a broad human context.
Prerequisites: Grades of B or better in MATH 192G and any upper divi-
sion MATH/STAT course, with overall GPA of 3.2 or better, or consent of
instructor. Same as HON 411G.

MATH 421. Financial Mathematics I 3 cr.
Types of derivatives, forwards and futures, options, returns and payoffs,
Arrow-Debreu, complete and incomplete markets, the one period model, the
binomial option pricing model, binomial trees, martingales and sub martin-
gales, Brownian motion, stochastic integrals, the Itô integral, Itô's dilemma,
the Black-Scholes model, the Black-Scholes formula, European options,
American options, free boundary problems, variational inequalities. This
course is offered simultaneously with Math 521. Prerequisite: C or better
in Math 280 or Math 480 and Stat 371 or consent of instructor.

MATH 422. Financial Mathematics II 3 cr.
Bonds, swaps, exotic options, barrier options, Asian options, look back
options, options with transaction costs, Fokker Plank theory, computing
expectations, the Heath-Jarrow- Morton theorem, the Ho-Lee model,
stochastic volatility models, exponential-affine models, numerical methods.
This course is offered simultaneously with Math 522. Prerequisite: C or be-
ter in Math 421 or consent of instructor.
Dynamic optimization of a monopolist, trading off inflation and unemployment, the optimal adjustment of labor demand, infinite planning horizon, the optimal investment path of a firm, the optimal social saving behavior, phase-diagram analysis, optimal control theory, the political business cycle, the dynamics of a revenue-maximizing firm, economic examples of state-space constraints. This course is offered simultaneously with MATH 523. Prerequisite: Math 421.

MATH 430. Combinatorial Mathematics 3 cr.
Methods for solving combinatorial construction and enumeration problems. Topics include Ramsey theory, generating functions, matchings, and block designs. Prerequisite: MATH 330 or MATH 331 or MATH 332.

MATH 431. Algebraic Coding Theory 3 cr.
An introduction to topics in the theory of error-correcting linear codes, including the applicable theory of finite binary groups, finite fields, and quotients of polynomial rings. Prerequisites: grades of C or better in MATH 280 and either MATH 330 or 331, or consent of instructor.

MATH 449. Senior Seminar 1 cr.
Survey of areas in contemporary mathematics. Preparation for using mathematics in the future. Prerequisites: senior standing and C or better in MATH 331 or MATH 332. Restricted to majors.

MATH 451. Introduction to Differential Geometry 3 cr.
Applies calculus to curves and surfaces in three dimensional Euclidean space. Prerequisites: MATH 280 and MATH 391, or consent of instructor.

MATH 452. Foundations of Geometry 3 cr.
Topics in projective, axiomatic Euclidean or non-Euclidean geometries. Prerequisite(s): C or better in Math 331 or Math 332. Restricted to: Main campus only.

MATH 453. Introduction to Topology 3 cr.
Introduction to topological spaces and metric spaces, with connections to analysis, geometry, and the classification of surfaces. Prerequisite: MATH 332 or consent of instructor.

MATH 454. Mathematical Logic 3 cr.
Propositional calculus and the first order predicate calculus, including Gödel’s completeness theorem for the latter, and additional topics at the option of the instructor. Prerequisite: MATH 330 or MATH 331 or consent of instructor.

MATH 455. Elementary Number Theory 3 cr.
Covers primes, congruences and related topics. Prerequisite: grade of C or better in MATH 331 or consent of instructor.

MATH 457. Topics in Algebra 3 cr.
Topics may include coding theory, cryptography, algebraic geometry, or symmetry groups. Prerequisites: C or better in Math 331.

MATH 459. Survey of Geometry 3 cr.
Basic concepts of Euclidean geometry, ruler and compass constructions. May include topics in non-Euclidean geometry. For non-math majors. Prerequisite(s): C or better in Math 331 or Math 332. Restricted to: Main campus only.

MATH 466. Lattice Theory 3 cr.
Introduction to partially ordered sets, distributive, modular, and Boolean lattices. Prerequisites: MATH 330 or MATH 331 or MATH 332 or consent of instructor.

MATH 471. Complex Variables 3 cr.
A first course in complex function theory, with emphasis on applications. Prerequisite: MATH 391 or both MATH 392 and MATH 291G.

MATH 472. Fourier Series and Boundary Value Problems 3 cr.
Fourier series and methods of solution of the boundary value problems of applied mathematics. Prerequisite: MATH 392.

MATH 473. Calculus of Variations and Optimal Control 3 cr.
Euler’s equations, conditions for extrema, direct methods, dynamic programming, and the Pontryagin maximal principle. Prerequisite: MATH 392.

MATH 475. Business Applications 3 cr.
Taught with MATH 375 with additional work. Does not fulfill requirements for degrees in mathematics. Prerequisite(s): C or better in Math 142G, or in MATH 191G, or in Math 235.

MATH 480. Vector Spaces and Matrix Algebra 3 cr.
Matrices, determinants, vector spaces, characteristic values, canonical forms; applications. Prerequisite: any 300-level course with a MATH or STAT prefix.

MATH 481. Advanced Linear Algebra 3 cr.
Rigorous treatment of vector spaces and linear transformations including canonical forms, spectral theory, inner product spaces and related topics. Prerequisite: grade of C or better in MATH 331.

MATH 491. Introduction to Real Analysis I 3 cr.
Rigorous discussion of the topics introduced in calculus. Sequences, series, limits, continuity, differentiation. Prerequisite: grade of C or better in MATH 332 or consent of instructor.

MATH 492. Introduction to Real Analysis II 3 cr.
Continuation of MATH 491. Integration, metric spaces and selected topics. Prerequisite: MATH 491 or consent of instructor.

MATH 498. Directed Reading 1-6 cr.
May be repeated for a maximum of 6 credits. Graded S/U.

MGT - MANAGEMENT

MGT 201. Introduction to Management 3 cr.
Covers the functioning and administration of different types of complex organizations. Concepts and theories of management and organizational behavior.

MGT 309. Human Behavior in Organizations 3 cr.
Interpersonal and organizational behavior, motivation, communication, team building, leadership, diversity management, legal and ethical issues, and politics in organizations.

MGT 310V. The Faces of Entrepreneurs 3 cr.
Examination of entrepreneurs from a wide range of historical and current contexts.

MGT 315V. Human Relations in Organizations 3 cr.
Interactions among people and groups in societies where organizations abound. Focus on the behavior of people in organizational situations and approaches for understanding that behavior. Explores motivation, communication, leadership and team processes. Restricted to nonbusiness majors.

MGT 325. Spreadsheet Modeling for Decision Making 3 cr.
Introduction to management science and operations research. Spreadsheet modeling and other computer-based tools are used to model and aid advanced business decision making. Includes decision analysis, linear programming, project management, inventory and forecasting, among others. Prerequisites: STAT 251G, E ST 311, or equivalent.

MGT 332. Human Resources Management 3 cr.
Survey course in human resources management. Includes recruitment, selection, equal employment opportunity, performance appraisal, training, compensation, safety, and union-management relations.

MGT 333. Training and Development 3 cr.
Training and development of human resources, including training needs assessment, training approaches and techniques, and evaluation of training effectiveness.

MGT 334. Labor Relations 3 cr.
Overview of labor-management relations, including the nature of unions and the labor movement. Managing conflict resolution processes in unionized and nonunionized organizations.

MGT 335V. Business and Government Same as ECON 335V. Prerequisite: 3 credits of economics.

MGT 338. Management Communication 3 cr.
Communication models with emphasis on application to management problems. Management communication systems and techniques in organizations.

MGT 344. Production and Operations Management 3 cr.
Management of physical and human resources; management information systems in operations; applications in various organizations. Prerequisites: STAT 251G or E STAT 251G or E ST 311; and BCIS 338 or BCIS 350.

MGT 345V. Quality and Competitiveness: An International Perspective 3 cr.
Quality management and competitiveness are studied in manufacturing, services, and the public sector with an international perspective. Topics include: global history of quality, foreign competition and its impact on quality and productivity, quality management and continuous improvement, international operations management, quality assessment, and a review of the emergence of quality and competitiveness in government, education and health care.

MGT 347. Management Functions and Processes 3 cr.
Planning, organizing, directing, and controlling operating units in an organization. Applications to a variety of types of organizations.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 351</td>
<td>Supply Chain Management</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 359</td>
<td>The Management of Diversity</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 390V</td>
<td>Negotiation and Business Conflict Resolution: Theory and Practice</td>
<td>3 cr.</td>
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<tr>
<td>MGT 391</td>
<td>Management Internship and Cooperative Education I</td>
<td>1-3 cr.</td>
</tr>
<tr>
<td>MGT 361</td>
<td>Small Business Management</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 360V</td>
<td>Negotiation and Business Conflict Resolution: Theory and Practice</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 363</td>
<td>The Management of Diversity</td>
<td>3 cr.</td>
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<tr>
<td>MGT 367</td>
<td>Introduction to Health Services Policy</td>
<td>3 cr.</td>
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<tr>
<td>MGT 368</td>
<td>Entrepreneurship Laboratory</td>
<td>3 cr.</td>
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<tr>
<td>MGT 369</td>
<td>The Management of Diversity</td>
<td>3 cr.</td>
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<tr>
<td>MGT 370</td>
<td>Project Management in Organizations</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 375V</td>
<td>Negotiation and Business Conflict Resolution: Theory and Practice</td>
<td>3 cr.</td>
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<tr>
<td>MGT 377</td>
<td>Principles of Managing a Small Enterprise</td>
<td>3 cr.</td>
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<tr>
<td>MGT 380</td>
<td>PGA Golf Management Freshman Orientation</td>
<td>3 cr.</td>
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<tr>
<td>MGT 381</td>
<td>Level 1, PGA's PGM Education Program (Part 1)</td>
<td>1.5 cr.</td>
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<tr>
<td>MGT 382</td>
<td>PGA Golf Management Freshman Orientation</td>
<td>3 cr.</td>
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<tr>
<td>MGT 383</td>
<td>PGA Golf Management Freshman Orientation</td>
<td>3 cr.</td>
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<tr>
<td>MGT 385</td>
<td>Introduction to Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MGT 388V</td>
<td>Leadership and Society</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 391</td>
<td>Management Internship and Cooperative Education I</td>
<td>1-3 cr.</td>
</tr>
<tr>
<td>MGT 444</td>
<td>Operations Planning and Control</td>
<td>3 cr.</td>
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<tr>
<td>MGT 448</td>
<td>Small Business Consulting</td>
<td>3 cr.</td>
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<tr>
<td>MGT 451</td>
<td>Selection, Placement, and Performance Evaluation</td>
<td>3 cr.</td>
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<tr>
<td>MGT 452</td>
<td>Leadership and Motivation</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MGT 453</td>
<td>Leadership and Motivation</td>
<td>3 cr.</td>
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<tr>
<td>MGT 454</td>
<td>Work Teams in Organizations</td>
<td>3 cr.</td>
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<tr>
<td>MGT 455</td>
<td>Public Utilities Regulation</td>
<td>3 cr.</td>
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<tr>
<td>MGT 456</td>
<td>Management of Health Services Organizations</td>
<td>3 cr.</td>
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<tr>
<td>MGT 457</td>
<td>Comparative International Management</td>
<td>3 cr.</td>
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<tr>
<td>MGT 458</td>
<td>Comparative International Management</td>
<td>3 cr.</td>
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<tr>
<td>MGT 460</td>
<td>Compensation Management</td>
<td>3 cr.</td>
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<tr>
<td>MGT 461</td>
<td>Seminar in Entrepreneurship</td>
<td>3 cr.</td>
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<tr>
<td>MGT 462</td>
<td>Introduction to Health Services Policy</td>
<td>3 cr.</td>
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<tr>
<td>MGT 463</td>
<td>The Economics of Managerial Processes in Health Service Organizations</td>
<td>3 cr.</td>
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<tr>
<td>MGT 464</td>
<td>Entrepreneurship Laboratory</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 200</td>
<td>PGA Golf Management Freshman Orientation</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 203</td>
<td>Introduction to Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 280</td>
<td>Level 1, PGA's PGM Education Program (Part 2)</td>
<td>1.5 cr.</td>
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**MKTG - MARKETING**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MKTG 180</td>
<td>PGA Golf Management Freshman Orientation</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 181</td>
<td>PGA's PGM Education Program (Part 1)</td>
<td>1.5 cr.</td>
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<tr>
<td>MKTG 203</td>
<td>Introduction to Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 280</td>
<td>Level 1, PGA's PGM Education Program (Part 2)</td>
<td>1.5 cr.</td>
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<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>MKTG 281</td>
<td>Level 2, PGA’s PGM Education Program (Part 1)</td>
<td>1.5 cr.</td>
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<tr>
<td>MKTG 453</td>
<td>Sales Management</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 451</td>
<td>Agribusiness Market Planning</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 300</td>
<td>Principles of Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 305</td>
<td>Marketing Agricultural Products</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 310</td>
<td>Marketing Research</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MKTG 311V</td>
<td>Consumer Behavior</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 312</td>
<td>Personal Selling</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 313</td>
<td>Retail Management</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 314</td>
<td>Advertising Strategy</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 317</td>
<td>International Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 324</td>
<td>Product/Service Development</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MKTG 350</td>
<td>Non-profit and Social Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 380</td>
<td>Level 2, PGA’s PGM Education Program (Part 2)</td>
<td>1.5 cr.</td>
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<tr>
<td>MKTG 391</td>
<td>Level 3, PGA’s PGM Education Program (Part 1)</td>
<td>1.5 cr.</td>
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<tr>
<td>MKTG 400</td>
<td>Marketing Internship/Field Experience</td>
<td>3 cr.</td>
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<td>MKTG 404</td>
<td>Business-to-Business Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 450</td>
<td>Distribution Management</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 451</td>
<td>Agribusiness Market Planning</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MKTG 453</td>
<td>Sales Management</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 454</td>
<td>Sports Marketing</td>
<td>3 cr.</td>
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<tr>
<td>MKTG 455</td>
<td>Services Marketing Management</td>
<td>3 cr.</td>
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</tbody>
</table>

**MOLB - MOLECULAR BIOLOGY**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MOLB 448</td>
<td>Special Research Problems</td>
<td>1-3 cr.</td>
</tr>
<tr>
<td>MOLB 450</td>
<td>Special Topics in Molecular and Cellular Biology</td>
<td>1-3 cr.</td>
</tr>
<tr>
<td>MOLB 452</td>
<td>Independent Studies in Bioinformatics</td>
<td>1-3 cr.</td>
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<tr>
<td>MOLB 470</td>
<td>Bioinformatics and Genome Analysis</td>
<td>3 cr.</td>
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<tr>
<td>MUS - MUSIC</td>
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<tr>
<td>MUS 101G</td>
<td>An Introduction to Music</td>
<td>3 cr.</td>
</tr>
<tr>
<td>MUS 110</td>
<td>Fundamentals of Music</td>
<td>2 cr.</td>
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</table>
MUS 117. Jazz Improvisation 2 cr.
Techniques for extemporaneous playing; jazz harmonic practice. Prerequisite: MUS 213 and MUS 211 or consent of instructor. May be taken for unlimited credit.

MUS 121. Concert and Recital Attendance Laboratory 5 cr.
Music majors and students taking applied music must attend certain concerts and recitals designated for this course. May be taken for unlimited credit. Graded S/U.

MUS 130. Applied Music 1-2 cr.
Private or group instruction for non-music majors, secondary instruments, and music majors preparing for 200-level applied music. May be taken for unlimited credit.

MUS 141. Class Voice I 2 cr.
Beginning voice. Fundamentals of voice production leading to the singing of several of the more simple vocal classics. Main campus only.

MUS 142. Class Voice II 2 cr.
Beginning voice. Fundamentals of voice production leading to the singing of several of the more simple vocal classics. Prerequisite: MUS 141 or consent of instructor. Main campus only.

MUS 145. Functional Piano I 2 cr.
Scales, chords, memorization. Harmonization of simple melodies with the ability to play simple melodies and rhythms. May be taken for unlimited credit. Restricted to music majors. No S/U option.

MUS 146. Functional Piano II 2 cr.
Scales, chords, memorization. Harmonization of simple melodies with the ability to play simple melodies and rhythms. Prerequisite: MUS 145 or consent of instructor. May be taken for unlimited credit. Restricted to music majors. No S/U option.

MUS 150. Orchestra 1 cr.
Participation in the Las Cruces Symphony at NMSU. This is a full symphony orchestra concentrating on masterworks of the literature. May be taken for unlimited credit.

MUS 151. University Orchestra 1 cr.
University Orchestra is a nonperforming orchestra that concentrates on reading different major orchestral works of literature. No audition required. May be taken for unlimited credit.

MUS 160. University Singers 1-2 cr.
A select concert and touring choir that sings masterworks with orchestra. May be taken for unlimited credit.

MUS 161. Concert Choir 1 cr.
Campus choir is composed of both music and non-music majors. Emphasis on vocal techniques, sight-singing, and basics of choral musicianship. May be taken for unlimited credit.

MUS 162. Master Works Chorus 1 cr.
Combination campus and community chorus. This group will perform the major chorale compositions for orchestra and/or wind ensemble. May be taken for unlimited credit.

MUS 163. Jazz Ensembles 1 cr.
Twenty-piece bands that perform contemporary jazz. May be taken for unlimited credit.

MUS 164. Chamber Ensembles 1 cr.
Small groups of singers and/or instrumentalists that perform chamber music. May be taken for unlimited credit.

MUS 165. NMSU Shojazz 1 cr.
A select vocal group that performs jazz, popular, and show music with instrumental accompaniment. May be taken for unlimited credit.

MUS 167. Summer Choir 1 cr.
Non-auditioned summer choir with emphasis placed on sight-singing and basics of choral music. May be taken for unlimited credit.

MUS 170. Symphonic Winds 1 cr.
A select concert and touring ensemble that performs band and chamber wind works from three centuries. May be taken for unlimited credit.

MUS 171. Roadrunner Revue Pep Band 1 cr.
For both music and nonmusic majors. Opportunity to perform a variety of music in a showband setting. Prerequisite: by audition only; contact band office for date and time. May be taken for unlimited credit.

MUS 172. Marching Band 1-2 cr.
For both music and nonmusic majors. Opportunity to perform all varieties of music in a contemporary styled marching unit. May be taken for unlimited credit.

MUS 174. Percussion Ensemble 1 cr.
Large and small groups performing classical and popular works. May be taken for unlimited credit.

MUS 176. Brass Ensemble 1 cr.
Brass choir, quintets, and matched ensembles. May be taken for unlimited credit.

MUS 177. Woodwind Ensemble 1 cr.
Mixed trios, quartets, quintets, ensembles up to 10 instruments including woodwinds with horns, plus matched ensembles. May be taken for unlimited credit.

MUS 178. Marimba Ensemble 1 cr.
Performance of traditional, popular, and contemporary music for the marimba ensemble. May be taken for unlimited credit.

MUS 179. Mariachi Ensemble 1-2 cr.
Performance of traditional, popular, and contemporary music in the Mariachi style. Prerequisite: audition. May be taken for unlimited credit.

MUS 201 G. History of Jazz in Popular Music: A Blending of Cultures 3 cr.
Jazz in popular music as it relates to music history and the development of world cultures.

MUS 202. Introduction to Music Literature 3 cr.
Elements, styles, and forms of Western music. Prerequisite: MUS 211 and MUS 213 or consent of instructor. No S/U option. Main campus only.

MUS 211. Ear Training I 1 cr.
Sight singing, dictation, notation, scales, intervals, triadic harmonies. Main campus only.

MUS 212. Ear Training II 1 cr.
Sight singing, dictation, notation, scales, intervals, triadic harmonies. Prerequisite: grade of C or better in MUS 211 and MUS 213 or consent of instructor. Main campus only.

MUS 213. Music Theory I 3 cr.
Diatonic harmony, sight singing, dictation, functional keyboard, and beginning compositional skills. Main campus only.

MUS 214. Music Theory II 3 cr.
Diatonic harmony, sight singing, dictation, functional keyboard and beginning compositional skills. Prerequisite: grade of C or better in MUS 213 or consent of instructor. Main campus only.

MUS 220. Applied Music 12 cr.
Individual instruction including improvisation skills and techniques. Prerequisite: audition and consent of instructor. May be taken for a maximum of 16 credits.

MUS 250. Introduction to Music Education 1 cr.
Overview of the American educational system with an emphasis on music's role. Includes organization, governance, law, professional practice, and introductory field experience. Main campus only.

MUS 260. Special Topics I 1-3 cr.
Emphasis on special areas of music; designed for highly motivated students. May be taken for unlimited credit.

MUS 261. Functional Piano IV 2 cr.
For music majors preparing for Piano Proficiency Examination. Prerequisite: MUS 147 or consent of instructor. May be taken for unlimited credit. Restricted to music majors. No S/U option.

MUS 262. Diction I 2 cr.
Introduction to the international phonetic alphabet, and its application to English, Italian, Spanish, and Latin song literature. Main campus only. Restricted to music majors.

MUS 263. Diction II 2 cr.
Advanced grammar and detailed study of Italian, German and French diction and song literature for vocal students. Prerequisite: MUS 262 or consent of instructor. Restricted to music majors. Main campus only.

MUS 272. Music Technology 3 cr.
Introduction to uses of technology in musical settings. Examines emerging software applications, MIDI, educational applications, and performance uses. Restricted to music and music education majors. Main campus only.

MUS 301. Marching Band Techniques 1 cr.
Preparing, organizing, and conducting a marching band.

MUS 302. History and Literature of Music to 1750 3 cr.
Survey of music from Antiquity through the Baroque. Prerequisites: MUS 202 or consent of instructor.
MUS 303. History and Literature of Music after 1750 3 cr.  Continuation of MUS 302. Prerequisite: MUS 302 or consent of instructor.

MUS 311. Ear Training III 1 cr.  Continuation of MUS 212, advanced sight singing, dictation. Prerequisite: grade of C or better in MUS 212 and MUS 214 or consent of instructor.

MUS 312. Ear Training IV 1 cr.  Continuation of MUS 311, advanced sight singing, dictation. Prerequisite: grade of C or better in MUS 311 and MUS 313 or consent of instructor.

MUS 313. Music Theory III 3 cr.  Advanced sight singing, functional keyboard, chromatic harmony, dictation, and intermediate composition skills. Prerequisite: grade of C or better in MUS 214 or consent of instructor. Main campus only.

MUS 314. Music Theory IV 3 cr.  Advanced sight singing, functional keyboard, chromatic harmony, dictation, and intermediate composition skills. Prerequisite: grade of C or better in MUS 313 or consent of instructor. Main campus only.

MUS 315. Brass Techniques I 1 cr.  Methods and techniques of teaching high brass instruments, for music education majors. Main campus only.

MUS 316. Brass Techniques II 1 cr.  Methods and techniques of teaching low brass instruments, for music education majors. Main campus only.

MUS 317. Woodwind Techniques I 1 cr.  Methods and techniques of teaching high woodwind instruments, for music education majors. Main campus only.

MUS 318. Woodwind Techniques II 1 cr.  Methods and techniques of teaching saxophone and double reed instruments, for music education majors. Main campus only.

MUS 319. String Techniques I 1 cr.  Methods and techniques of teaching low string instruments, for music education majors. Main campus only.

MUS 320. String Technique II 1 cr.  Methods and techniques of teaching high string instruments, for music education majors. Main campus only.

MUS 321. Instrumental Techniques for Vocal Music Education Majors 2 cr.  Methods of teaching brass, woodwind, percussion, stringed and fretted instruments for vocal music education majors. Prerequisites: grade of C or better in MUS 325 and 327. Main campus only.

MUS 322. Percussion Technique I 1 cr.  Methods and techniques of teaching the non melodic instruments. Restricted to music majors only. Main campus only.

MUS 324. Percussion Technique II 1 cr.  Methods and techniques of teaching the melodic instruments. Restricted to music majors. Main campus only.

MUS 325. Beginning Conducting 1 cr.  Covers basic principles of conducting technique: the application of aural skills and gesture theory to the process of ensemble rehearsal and performance.

MUS 326. Instrumental Conducting, Techniques, and Literature 3 cr.  Continuation of conducting study with emphasis on instrumental rehearsal techniques, ensemble management, and literature. Includes arranging and conducting selections for the class. Prerequisite: MUS 325 or consent of instructor. Restricted to music and music education majors.

MUS 327. Choral Conducting, Techniques, and Literature 3 cr.  Continuation of conducting study with emphasis on choral rehearsal techniques, ensemble management, and literature. Covers all aspects of directing a secondary choral program. Prerequisite: MUS 326 or 327. Restricted to music and music education majors.

MUS 330. Applied Music II 2-4 cr.  Individual instruction including improvisation skills and techniques. May be taken for unlimited credit. Prerequisites: jury audition and consent of instructor.

MUS 339. Survey of Music Business 3 cr.  Survey of the career options in the music business including songwriting, publishing, copyright, merchandising, arts administration, recording, management and promotion.

MUS 346. Elementary Music Methods 2 cr.  Lesson planning, curriculum, teaching methodology, materials, and procedures for teaching music in an elementary school. Emphasis on methodology of Kodály and Orff, teaching in a multicultural setting, and developing reflective practitioners. Prerequisites: MUS 326 or 327; and TEP admittance or consent of instructor. Restricted to music education majors.

MUS 347. Methods and Materials for Teaching Choral Music 3 cr.  Organization and development of a choral program including funding, recruiting, auditioning, touring, and management.

MUS 348. Instrumental Methods 3 cr.  Curriculum, materials, and procedures as they apply to the development of the instrumental program in elementary and secondary schools.

MUS 349. Secondary Music Methods 2 cr.  Lesson planning, curriculum, teaching methodology, materials, and procedures for teaching music in the middle school and high school. Emphasis on teaching in a multicultural setting and developing reflective practitioners. Prerequisites: MUS 326 or MUS 327; and TEP admittance or consent of instructor. Restricted to music education majors.

MUS 350. Chamber Music 1 cr.  Small performing ensembles that may include strings, woodwinds, brass, pianos, percussion, and voices. May be taken for unlimited credit.

MUS 351. Opera Workshop 1-4 cr.  Study, translation analysis, rehearsal and performance of opera. Prerequisite: consent of instructor. May be taken for unlimited credit.

MUS 356. University Orchestra II 1 cr.  Nonperforming orchestra that concentrates on reading different major orchestral works of literature. Students must assume a leadership role. No audition required. Composed of both majors and nonmajors. Prerequisite: MUS 151 or consent of instructor. May be repeated for unlimited credit.

MUS 363. Jazz Ensembles II 1 cr.  Twenty-piece bands that perform contemporary jazz. Students must assume leadership roles. Prerequisite: MUS 163 or consent of instructor. May be repeated for unlimited credit.

MUS 364. Counterpoint I 3 cr.  A direct approach to the style characteristics and treatment of dissonance in the polyphonic masterworks of the sixteenth century. Prerequisites: B or better in MUS 312 and MUS 314. Restricted to majors.

MUS 365. Composition I 3 cr.  Significant forms for various media. Emphasis on structural aspects of original composition. Prerequisites: B or better in MUS 312 and MUS 314. Restricted to majors.

MUS 366. Composition II 3 cr.  Applied larger forms. Emphasis on larger vocal and instrumental works. Prerequisites: B or better in MUS 311, MUS 312, MUS 313, and MUS 314.

MUS 368. University Singers II 1-2 cr.  A select concert and touring choir that sings masterworks with orchestra. Students must assume leadership roles. Prerequisite: MUS 361 or consent of instructor. May be repeated for unlimited credit.

MUS 370. Symphonic Winds II 1 cr.  A select concert and touring ensemble that performs band and chamber wind works from three centuries. Students must assume a leadership role. Prerequisite: MUS 170 or consent of instructor. May be repeated for unlimited credit.

MUS 372. Marching Band II 1-2 cr.  Composed of both majors and nonmajors. Opportunity to perform all varieties of music in a contemporary style marching unit. Students must assume a leadership role. Prerequisite: MUS 172 or consent of instructor. May be repeated for unlimited credit.

MUS 373. Electronic Music II 3 cr.  Original composition using electronic instruments, tape recorders, analog synthesizers, survey of computer music. Prerequisites: MUS 273 or consent of instructor.

MUS 374. Percussion Ensembles II 1 cr.  Large and small groups performing classical and popular works. Students must assume a leadership role. Prerequisite: MUS 174 or consent of instructor. May be repeated for unlimited credit.

MUS 376. Brass Ensemble II 1 cr.  Brass choir, quintets, and matched ensembles. Students must assume a leadership role. Prerequisite: MUS 176 or consent of instructor. May be repeated for unlimited credit.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MUS 377</td>
<td>Woodwind Ensembles II</td>
<td>1 cr.</td>
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<tr>
<td>MUS 378</td>
<td>Marimba Ensemble II</td>
<td>1 cr.</td>
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<tr>
<td>MUS 386</td>
<td>Applied Music Pedagogy and Literature I</td>
<td>2 cr.</td>
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<tr>
<td>MUS 413</td>
<td>Form and Analysis</td>
<td>3 cr.</td>
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<tr>
<td>MUS 415</td>
<td>Orchestration</td>
<td>3 cr.</td>
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<tr>
<td>MUS 416</td>
<td>Choral Arranging</td>
<td>2 cr.</td>
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<tr>
<td>MUS 418</td>
<td>Band Arranging</td>
<td>3 cr.</td>
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<tr>
<td>MUS 420</td>
<td>Music of the Middle Ages and Renaissance</td>
<td>3 cr.</td>
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<tr>
<td>MUS 421</td>
<td>Music of the Baroque Era</td>
<td>3 cr.</td>
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<tr>
<td>MUS 422</td>
<td>Music of the Classic Era</td>
<td>3 cr.</td>
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<tr>
<td>MUS 423</td>
<td>Music of the Romantic Era</td>
<td>3 cr.</td>
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<tr>
<td>MUS 424</td>
<td>Music of the Twentieth Century</td>
<td>3 cr.</td>
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<tr>
<td>MUS 429</td>
<td>Opera and Music Drama</td>
<td>3 cr.</td>
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<tr>
<td>MUS 430</td>
<td>Applied Music III</td>
<td>2-4 cr.</td>
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<tr>
<td>MUS 440</td>
<td>Senior Recital</td>
<td>2 cr.</td>
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<tr>
<td>MUS 441</td>
<td>Supervised Studio Teaching</td>
<td>2 cr.</td>
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<tr>
<td>MUS 449</td>
<td>Independent Research in Music</td>
<td>1-3 cr.</td>
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<tr>
<td>MUS 450</td>
<td>Research Methods</td>
<td>3 cr.</td>
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<tr>
<td>MUS 451</td>
<td>Orchestra II</td>
<td>1 cr.</td>
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<tr>
<td>MUS 455</td>
<td>Music Business Internship</td>
<td>3 cr.</td>
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<tr>
<td>MUS 464</td>
<td>Counterpoint II</td>
<td>3 cr.</td>
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<tr>
<td>MUS 465</td>
<td>Composition III</td>
<td>3 cr.</td>
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<tr>
<td>MUS 466</td>
<td>Composition IV</td>
<td>3 cr.</td>
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<tr>
<td>MUS 470</td>
<td>Special Topics III</td>
<td>1-3 cr.</td>
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<tr>
<td>MUS 472</td>
<td>Graduate Ear Training Review</td>
<td>1 cr.</td>
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<tr>
<td>MUS 473</td>
<td>Electronic Music III</td>
<td>3 cr.</td>
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<tr>
<td>MUS 474</td>
<td>Baroque Flute</td>
<td>1 cr.</td>
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<tr>
<td>MUS 475</td>
<td>Intermediate Conducting</td>
<td>3 cr.</td>
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<tr>
<td>MUS 476</td>
<td>Music Cultures of the World: History and Criticism</td>
<td>3 cr.</td>
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<tr>
<td>MUS 477</td>
<td>Listening, criticism, and analysis of musical cultures around the world. Open to all majors.</td>
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<tr>
<td>NAV 111</td>
<td>Elementary Navajo I</td>
<td>4 cr.</td>
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<tr>
<td>NAV 112</td>
<td>Elementary Navajo II</td>
<td>4 cr.</td>
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<tr>
<td>NSC 121</td>
<td>Integrated Natural Sciences I</td>
<td>4 cr. (3-3P)</td>
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<tr>
<td>NSC 122</td>
<td>Integrated Natural Sciences II</td>
<td>4 cr. (3-3P)</td>
</tr>
<tr>
<td>NURS 105</td>
<td>Orientation to Nursing</td>
<td>2 cr.</td>
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**NAV-NAVAJO STUDIES**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>NAV 101</td>
<td>Introduction to Navajo Studies</td>
</tr>
<tr>
<td>NAV 111</td>
<td>Elementary Navajo I</td>
</tr>
<tr>
<td>NAV 112</td>
<td>Elementary Navajo II</td>
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**NSC-NATURAL SCIENCE**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>NSC 121</td>
<td>Integrated Natural Sciences I</td>
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<tr>
<td>NSC 122</td>
<td>Integrated Natural Sciences II</td>
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<tr>
<td>NSC 351</td>
<td>Special Topics in Natural Sciences</td>
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**NURS-NURSING**

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<tr>
<th>Course Code</th>
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<tr>
<td>NURS 105</td>
<td>Orientation to Nursing</td>
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</table>
NURS 110. Independent Study 1-4 cr.
Individual studies with prior approval of department coordinator. Prerequisite: consent of instructor. May be repeated for a maximum of 10 credits.

NURS 119. Dosage and Calculations 1 cr.
Covers techniques for accurate measurement, calculation, and administration of medications and fluids for children and adults. Graded S/U.

NURS 120. Introduction to Pharmacology 3 cr.
General principles of pharmacology including methods of administration, effect on the body, interactions with other drugs, and classification of drugs. Focus on the health care provider’s role in safe pharmacologic intervention. Restricted to Allied Health majors. Community Colleges only.

NURS 121. Nursing Process: Basic Concepts 3 cr.
Introduction to the principles and techniques of nursing process, communication dynamics, and the helping relationship. Grade of C or better required. Prerequisite: admission to nursing program. Corequisites: NURS 119, NURS 120, NURS 122 and NURS 123.

NURS 122. Skills Laboratory I 1 cr. (3P)
Fundamental nursing skills and relevant scientific principles required for basic clinical practice taught in the laboratory setting. Prerequisite: admission to the nursing program. Corequisites: NURS 119, NURS 120, NURS 121, and NURS 122. Community Colleges only. Graded S/U. Grade of C or better required.

NURS 123. Clinical Practice I 2 cr. (6P)
Introductory clinical using basic nursing skills, knowledge base, and nursing process in a clinical setting. Prerequisite: admission to nursing program. Corequisites: NURS 119, NURS 120, NURS 121 and NURS 122. Community Colleges only. Grade of C or better required.

NURS 127. Pharmacology Review 1 cr.
Using an interdisciplinary perspective, the course draws upon core concepts of anatomy, physiology and pathology in order to make drug therapy more understandable. Restricted to Allied Health and Nursing majors. Graded S/U. Community Colleges only.

NURS 128. Community Service Nursing 1 cr.
Nursing skills, principles, and processes are used to plan and/or participate in a variety of health related community projects, seminars, events, classes, etc. Specific assignments related to a variety of nursing topics are used throughout course. Prerequisite: admission to Nursing Program. Restricted to majors. Graded S/U.

NURS 131. Nursing Process: Common Health Deviations 5 cr.
Use of the nursing process in teaching, supporting, planning, and providing care for clients of any age who are experiencing common health deviations. Grade of C or better required. Prerequisite: second semester nursing standing. Corequisite: NURS 132 and NURS 133. Community Colleges only.

NURS 132. Skills Laboratory II 1 cr. (3P)
Learn and practice scientific principles of nursing skills to plan and provide nursing care for clients with common health deviations across the life span. Prerequisite: admission to the nursing program. Corequisite: NURS 131 and NURS 133. Community Colleges only. Graded S/U. Grade of C or better required.

NURS 133. Clinical Practice II 4 cr. (12P)
Use of nursing skills and principles to plan and give care based on the nursing process to clients across the life span experiencing common health deviations. Prerequisite: second semester nursing standing. Corequisite: NURS 131 and NURS 132. Community Colleges only. Graded S/U. Grade of C or better required.

NURS 140. Pathophysiology for Allied Health Professionals 3 cr.
Introduction to the nature of disease and its effect on body systems. Deals with the disease processes affecting the human body via an integrated approach to specific disease entities. Includes a review of normal functions of the appropriate body systems. Diseases are studied in relationship to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complication, treatment modalities, and prognosis. Prerequisite: a grade of C or better in OEH 140. Restricted to Allied Health and Health Information Technology majors. Community Colleges only.

NURS 141. Fundamentals of Surgical Care I 3 cr.
Introduction to the principles of aseptic technique, sterilization, disinfection, antisepsis, environmental safety and control, CDC and OSHA requirements. Introduction to surgical wounds and wound healing including types, stages and complications. Prerequisite: admission to Surgical Technology Program. Corequisites: NURS 142 and NURS 143. Restricted to Nursing and Allied Health majors. Community Colleges only.

NURS 142. Fundamentals of Surgical Care II 1 cr. (3P)
Introduction to the principles of aseptic techniques, sterilization, disinfection, antisepsis, environmental safety and control, CDC and OSHA requirements, types, preparation and care of surgical supplies, packing, dressing, catheters, drains, tubes, and equipment as well as classification of instruments, sutures, and needles. Introduction to responsibilities related to the scrub and circulation roles in a perioperative setting. Prerequisite: admission to Surgical Technology Program. Corequisites: NURS 141 and NURS 143. Restricted to Nursing and Allied Health majors. Community Colleges only.

NURS 143. Fundamentals of Surgical Care III 2 cr. (6P)
Introduction to guided surgical technology experiences in the surgical environment. Prerequisite: admission to Surgical Technology Program. Corequisites: NURS 141 and NURS 142. Restricted to Nursing and Allied Health majors. Community Colleges only.

NURS 146. Common Health Deviations 6 cr. (3-9P)
Common health deviations and the manner by which they alter various body functions are explored. The role of the licensed practical nurse in assisting clients with common health deviations is presented. Ethical and legal implications and the role of the practical nurse are also considered. The licensed practical nursing student will utilize the application of knowledge to a client care situation both in the sub-acute care and acute care settings. The nursing process is presented as a guide for coordinating client care with in a chosen nursing system, each phase of the nursing process is utilized as a method of coordinating client care. Prerequisite(s): NURS 153, NURS 156, NURS 154, NURS 210 or consent of program director. Restricted to: Carlsbad campus only.

NURS 150. Medical Terminology 3 cr.
Understanding of the basic elements of medical words. Use of medical abbreviations. Same as OEHO 120 and BOT 150.

NURS 151. Introduction to Nursing Practice Fundamentals of Nursing Including Physical Assessment 6 cr.
Introduction to the principles and techniques of nursing practice. Includes communication, fundamentals of nursing, physical assessment, basic pharmacology, and medication administration. Prerequisite: Admission to nursing program. Corequisite: NURS 152. Restricted to majors. Dona Ana Community College only. Required: Grade of C or better.

NURS 152. Intro to Nursing Practice, Clinical Practice Fundamentals of Nursing Including Physical Assessment 5 cr.
Introductory skills lab and clinical practice acquiring and practicing fundamental nursing skills: communication, fundamentals of nursing, physical assessment, and medication administration. Prerequisite: Admission to nursing program. Corequisite: NURS 151. Restricted to majors. Dona Ana Community College only. Required: Grade of C or better.

NURS 153. Medication and Dosage Calculation 1 cr.
Techniques of dosage calculation for medication and fluid administration. RR applicable. Prerequisite(s): Meet NMSU basic skills requirement in mathematics or consent of program director. Corequisite(s): NURS156 and NURS154.

NURS 154. Physical Assessment 2 cr.
Beginning techniques of physical assessment by systems will be presented by using the nursing process as a guide for identifying self-care requisites throughout the life span. Prerequisite(s): BIOL 154 or consent of program director. Corequisite(s): NURS 153 & NURS 156. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

NURS 155. Special Topics 1-4 cr.
Specific subjects to be announced in the Schedule of Classes.

NURS 156. Basic Nursing Theory and Practice 6 cr. (4-6P)
Introduction to the nursing profession and the beginning skills of nursing practice as it relates to normalcy. Embracing the theory of Dorothea Orem, the nursing process is presented as a means of guiding the student in promoting self-care. Ethical and legal aspects of nursing practice are also included. Basic clinical nursing skills will be presented and practiced in the nursing lab. The student will perform these skills with clients in an actual health care setting. Prerequisite(s): Consent of Program Director. Corequisite(s): NURS 153 and NURS 154. Restricted to: Carlsbad campus only.
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<tr>
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<tbody>
<tr>
<td>NURS 170</td>
<td>Foundations of Nursing</td>
<td>5 cr.</td>
<td>Holistic approach to basic physical wellness and mental health of the adult client. Clinical experience will include in-patient and out-patient patient, psychiatric, settings, wellness, and physical assessment. Prerequisite: OENA 101 or consent of instructor. Corequisite: NURS 172L. Restricted to majors. Community Colleges only.</td>
</tr>
<tr>
<td>NURS 172</td>
<td>Physical Assessment</td>
<td>1 cr.</td>
<td>Using the nursing process, the student will be able to perform a basic health history and physical examination on an adult client. Prerequisites: BIOL 253 and BIOL 254. Restricted to NURS and OEEM majors. Community College campus only.</td>
</tr>
<tr>
<td>NURS 178</td>
<td>Surgical Procedures I</td>
<td>6 cr.</td>
<td>Focus to general surgery and the surgical specialties of gastroenterology; gynecology; ophthalmology; dental; oral and maxillofacial; plastic and reconstructive; pediatric; oncology; neurology; orthopedic; cardiac; thoracic; vascular transplant; HEENT. Present in classroom and clinical setting. Prerequisites: NURS 141, NURS 142 and NURS 143. Restricted to Allied Health and Nursing majors. Community Colleges only.</td>
</tr>
<tr>
<td>NURS 189</td>
<td>Surgical Procedures II</td>
<td>4 cr.</td>
<td>Focus on the technical aspects of surgical procedures in clinical setting for general surgery and the surgical specialties of gastroenterology; gynecology; ophthalmology; dental; oral and maxillofacial; plastic and reconstructive; pediatric; oncology; neurology; orthopedic; cardiac; thoracic; vascular transplant; HEENT. Prerequisites: NURS 141, NURS 142 and NURS 143. Corequisite: NURS 187 and NURS 188. Restricted to Nursing and Allied Health Program majors. Community Colleges only.</td>
</tr>
<tr>
<td>NURS 210</td>
<td>Pharmacological Requisites of the Childbearing Family</td>
<td>1 cr.</td>
<td>Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care will be discussed focusing on medications commonly utilized with the childbearing family. Medication classes to be discussed include labor and delivery, analgesic, vitamins, respiratory, gynecological, endocrine, and anti-microbial/anti-infective drugs. Prerequisite: BIOL 225 and BIOL 226 or consent of instructor and NURS 153 and NURS 156. Corequisite: NURS 157. Carlsbad Community College campus only.</td>
</tr>
<tr>
<td>NURS 211</td>
<td>Pharmacological Requisites of Simple Health Deviations</td>
<td>1 cr.</td>
<td>Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care are addressed focusing on medications related to complex health deviations. Drug classes to be discussed include cardiovascular, renal, endocrine, and neurological. Prerequisites: BIOL 225 and BIOL 226 or consent of instructor, and NURS 153, NURS 156, NURS 157, NURS 246, NURS 258, NURS 210 and NURS 211. Corequisites: NURS 256 and NURS 260. Carlsbad Community College campus only.</td>
</tr>
<tr>
<td>NURS 212</td>
<td>Pharmacological Requisites of Complex Health Deviations</td>
<td>1 cr.</td>
<td>Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care is examined focusing on medications related to complex health deviations. Drug classes to be discussed include cardiovascular, renal, endocrine, and neurological. Prerequisites: BIOL 225 and BIOL 226 or consent of instructor, and NURS 153, NURS 156, NURS 157, NURS 246, NURS 258, NURS 210 and NURS 211. Corequisites: NURS 256 and NURS 260. Carlsbad Community College campus only.</td>
</tr>
</tbody>
</table>
NURS 213. Advanced Entry Preparation 3 cr. (2+3P)
Transition from practical/vocational nursing practice. Theory and clinical
to prepare LPN/LVN for entry into second year of ADN program. Also used
to refresh students who have exited the ADN program and wish to return.
Prerequisite: admission to the nursing program. Community Colleges only.

NURS 214. Nursing Process Update 1 cr.
Introduction to the nursing process for registered nurses and licensed
practical nurses.

NURS 215. Nursing Process: Multiple Health Deviations 5 cr.
Use of nursing process in teaching, supporting, planning, and providing
care for acutely ill clients of any age experiencing multiple health devia-
tions. C or better required. Prerequisite: third semester nursing standing.
Corequisites: NURS 216 and NURS 217. Community Colleges only.

NURS 216. Skills Laboratory III 1 cr. (3P)
Learn and practice skills based on scientific principles required to plan and
provide care for clients experiencing multiple health deviations. Prerequi-
site: third semester of nursing program. Corequisites: NURS 215 and NURS
217. Community Colleges only. Grade of C or better required.

NURS 217. Clinical Practice III 4 cr. (12P)
Use of nursing skills and principles to plan and give care based on the nurs-
ing process to clients across the life span with multiple health deviations.
Prerequisite: third semester nursing standing. Corequisites: NURS 215 and
NURS 216. Community Colleges only. Grade of C or better required.

NURS 220. Introduction to Professional Nursing 2 cr.
Introduction to the nursing process as a framework for providing care.
Focus on the principles, concepts, and theories basic to the study of nurs-
ing and in the evolution of nursing and nursing education.

NURS 221. Introduction to Skills for Nursing Practice: Laboratory 3 cr.
Introduction to the art of performing research-based patient care skills for
promoting safety and comfort and for meeting physiological and psychoso-
cial needs. Corequisite: NURS 220, NURS 222 and NURS 223.

NURS 222. Skills for Nursing Practice: Theoretical Foundations 2 cr.
Introduction to theoretical concepts of research-based patient care skills
for promoting safety and comfort and for meeting physiological and psychoso-
cial needs. Corequisites: NURS 220, NURS 221, and NURS 223.

NURS 223. Basic Terminology for Nursing 1 cr.
Basic vocabulary and fundamental constructs of nursing and medical
terminology.

NURS 232. Skills Laboratory IV 1 cr. (3P)
Learn and practice nursing skills based on scientific principles to plan and
provide nursing care for clients with complex health deviations. Prerequi-
site: fourth semester of nursing program. Corequisite: NURS 230 and NURS
233. Community Colleges only.

NURS 233. Clinical Practice IV 1 cr.
Use of nursing skills and principles to plan and give care based on the nurs-
ing process to clients of any age with complex health deviations.
Prerequisite: fourth semester nursing standing. Corequisite: NURS 230 and
NURS 233. Community Colleges only. Grade of C or better required.

NURS 235. Nursing Leadership and Management 2 cr.
This course provides concepts and principles of nursing leadership and
management for the novice professional nurse. Community Colleges Only.
Restricted to Majors.

NURS 236. Nursing Preceptorship 6 cr. (2+12P)
This capstone course provides the opportunity to provide direct client care
in a clinical setting. Community Colleges Only. Restricted to Majors.

NURS 240. Healthcare Quality and Performance Improvement 3 cr.
Practical applications of health information management concepts as
they apply to health record systems and the health care industry. Quality
assessment and improvement standards and requirements of licensing,
accrediting, fiscal and other regulatory agencies will be presented. Com-
community Colleges Only. Restricted to Majors.

NURS 246. Health Deviations I 7 cr. (4+3P)
Introduction to medical/surgical clients whose self-care needs are routine
and predictable. Focus is on simple health deviations, including concepts
relative to health promotion and maintenance. Pharmacological therapies
are included. Focus on the care of individuals with simple health devia-
tions. Nursing process utilized to assist patients with meeting self-care
needs. Student expected to apply all nursing systems while providing
care for a group of two or three clients. Grade of C or better required.
Prerequisite(s): NURS 153, NURS 156, NURS 154, NURS 157 and NURS 210
or consent of program director. Corequisite(s): NURS 211 and NURS 258.
Restricted to: Carlsbad campus only.

NURS 251. Nursing Practice Part II Multiple Health Deviations 6 cr.
Use of nursing process in teaching, supporting, planning, and providing
care for acutely ill clients of any age experiencing multiple health devia-
tions. Required: Grade of C or better. Prerequisites: NURS 151, 152, 161, 162
and third semester nursing standing. Corequisite: NURS 252. Restricted to
majors. Dona Ana Community College only.

NURS 252. Nursing Practice Part II, Clinical 5 cr.
Skills lab and clinical practice utilizing the nursing process in teaching,
supporting, planning, and providing care for acutely ill clients of any age
experiencing multiple health deviations. Required: grade of C or better.
Prerequisites: NURS 151, 152, 161, 162, and third semester nursing standing.
Corequisite: NURS 251. Restricted to majors. Dona Ana Community College
only.

NURS 256. Health Deviations II 8 cr. (1+16P)
Concepts and principles applied to clients with complex health deviations.
Focus will be on acutely ill clients that require the nurse to function in all
three nursing systems. Building upon knowledge gained in NURS 246,
the student focuses on individuals with complex health deviations. The
nursing process continues to serve as a guide in assisting clients to meet
self-care needs. The student assists the health care team in all aspects of
client care. Preceptorship experience in which the student makes appli-
cation of all knowledge gained throughout the nursing program. Student
experiences the role of the staff nurse under the guidance and direction
of their preceptor and nursing instructor. Grade of C or better required.
Prerequisite(s): NURS 153, 154, 156, 157, 210, 211, 246, and 258 or consent of
program director. Corequisite(s): NURS 260 and NURS 212. Restricted to:
Carlsbad campus only.

NURS 258. Psychosocial Requisites: A Deficit Approach 3 cr. (3P)
Nursing theory and practice as it relates to the care of the client experi-
encing psychosocial health deviations. The role of the nurse is discussed
along with the ethical and legal aspects of caring for the client with
psychosocial disorders. Building upon the communication skills of listen-
ing and responding, the student develops the therapeutic skills of inter-
personal relationships. All nursing systems will be utilized as the student
makes application to the care of clients experiencing psychosocial devia-
tions. Grade of C or better required. Prerequisites: NURS 153, 154, 156, 157,
210, 246, and 258 or consent of program director. Corequisite(s): NURS
260 and NURS 212. Restricted to: Carlsbad campus only.

NURS 260. Management of Patients with Health Deviations 2 cr.
A capstone experience to the nursing program in which principles in man-
agement and delegation to less prepared personnel is explored. Includes
the development of delegation skills while directing client activities in a
work setting, and the development of the beginnings of nursing leadership
roles. During this experience, the student makes application of all knowl-
edge gained throughout the nursing curriculum. A review of leadership
roles, legal issues and scope of practice with preparation for the NCLEX
is included. Grade ‘C’ or better required. Lab fee included to cover cost of
NCLEX review. Prerequisite(s): NURS 153, 154, 156, 157, 210, 211, 246, and
258 or consent of program director. Corequisite(s): NURS 211 and NURS
256. Restricted to: Carlsbad campus only.

NURS 261. Nursing Practice Part III Complex Health Deviations 6 cr.
Preparation for entry into professional practice as a graduate nurse.
Advancement of (more complex) nursing skills: assessment of clients
with complex health deviations. Includes assessment and determination
of needs for clients and families with complex health deviations. Develop
and implement, evaluate and reassess plans of care based on physical
and psychosocial assessment. Continued refinement of skills acquired
in prerequisite classes. Prerequisites: NURS 151, 152, 161, 162, 251, and 252.
Corequisite: NURS 262. Restricted to majors. Dona Ana Community College
only. Required: grade of C or better.
NURS 262. Nursing Practice Part III Complex Health Deviations 5 cr.
Intermediate skills lab and clinical practice acquiring and practicing more complex nursing skills: assessment of clients with common health deviations, development of care plans, continued refinement of skills acquired in NURS 251 and NURS 252. Prerequisites: NURS 151, 152, 161, 162, 251, and 252. Corequisite: NURS 261. Restricted to majors. Dona Ana Community College only. Required: grade of C or better.

NURS 270. The Adult Client II 5 cr. (2+9P)
Care of adult clients experiencing chronic, life-threatening, and end-of-life health alterations with emphasis on the geriatric population using a holistic approach to wellness. Nursing process, pathophysiology, pharmacology, diet therapy, and alternative therapies are stressed throughout the course. Clinical component will provide an opportunity to apply the nursing process in both the hospital and community setting. Prerequisites: NURS 180, and NURS 272. Corequisite: NURS 282L. Community Colleges only. Restricted to majors.

NURS 272. Care for the Aging Client 1 cr.
Normal physiological changes of aging and nursing implications related to safety and wellness. Prerequisite: NURS 180 or consent of instructor. Restricted to NURS majors. Community College campus only.

NURS 275. Holistic Approach to Pharmacotherapeutic Interventions II 2 cr.
Level II. Holistic approach to the study of basic pharmacology concepts. Includes pharmacodynamic phases of drug interaction. Nursing process is discussed in relation to medication administration. Special emphasis on the role of the nurse and basic concepts related to specific drug categories. Prerequisite: NURS 185. Corequisites: NURS 290 and NURS 263. Restricted to majors. Community Colleges only.

NURS 277. Introduction to Perioperative Nursing II 3 cr. (9P)
Focus on the technical aspects of the surgical environment for preoperative nursing in the skills lab and clinical settings. Prerequisite: NURS 186. Restricted to Nursing and Allied Health majors. Community Colleges only.

NURS 278. Advanced Perioperative Nursing I 3 cr.
Introduction to the technical aspects of preoperative nursing, including perioperative pharmacology, risk management, quality improvement, standard CDC and OSHA precautions, monitoring and documentation. Prerequisites: NURS 186 and NURS 276. Corequisite: NURS 279. Restricted to Nursing and Allied Health majors. Community Colleges only.

NURS 279. Advanced Perioperative Nursing II 6 cr. (18P)
Focus on the technical aspects of perioperative nursing which include perioperative pharmacology, risk management, quality improvement, monitoring and documentation, standard CDC and OSHA precautions in the skills lab and clinical settings. Prerequisites: NURS 186 and NURS 277. Corequisite: NURS 278. Restricted to Nursing and Allied Health majors. Community Colleges only.

NURS 280. Women's Health Issues 4 cr. (2+6P)
Consists of lecture and associated clinical/laboratory experiences that focus on the holistic health concerns for women and the care of families expecting birth. Emphasis placed on the wellness of normal and high-risk women's health, including maternal and newborn care. The nursing process will be utilized to develop caring interventional and effective community communication through teaching healthy strategies. Prerequisites: NURS 180 and NURS 185. Corequisite: NURS 280. Restricted to majors. Community Colleges only.

NURS 282. Management of Client Care 1 cr.
Organization and delivery of wellness care services for groups of clients based on the nursing process. Prerequisite: NURS 180. Corequisite: NURS 270. Community Colleges only.

NURS 282 L. Practicum: Management of Client Care 1 cr. (SP)
Organization and delivery of wellness care services for groups of clients based on the nursing process. Prerequisites: NURS 180, NURS 182, and NURS 272. Corequisite: NURS 280. Restricted to majors. Community Colleges only.

NURS 283. Pediatric Nursing 4 cr. (2+6P)
Consists of lecture and associated clinical and laboratory experiences which focus on the care of children from infancy through adolescence including acute and chronic health care problems. Employs nursing process, pathophysiology, pharmacology, and diet therapy through the holistic approach to wellness. Prerequisite: NURS 180. Corequisites: NURS 275, NURS 280. Restricted to majors. Community Colleges only.

NURS 284. Practicum: Preceptorship 3 cr. (9P)
Clinical experience in a leadership role in specific practice areas enhancing the transition from student to practitioner utilizing the holistic approach to wellness. Prerequisites: NURS 182. Corequisites: NURS 270 and NURS 282L. Restricted to majors. Community Colleges only.

NURS 285. Holistic Approach to Pharmacotherapeutic Intervention III 1 cr.
Level III. Holistic approach to the study of basic pharmacology concepts. Includes pharmacodynamic phases of drug interaction. Nursing process is discussed in relation to medication administration. Special emphasis on the role of the nurse and basic concepts related to specific drug categories. Prerequisite: NURS 270 Corequisite: NURS 280. Restricted to majors. Community Colleges only.

NURS 290. Pathophysiology I 1-3 cr.
An introduction to pathophysiologic concepts using a body systems approach. Prerequisite: BIOL 226 or BIOL 254. Community Colleges only.

NURS 291. Pathophysiology II 1-3 cr.
A continuation of materials presented in NURS 290, Pathophysiology I, covering the remaining body systems. Prerequisite(s): BIOL 226 or 254 and NURS 290 or consent of program director. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

NURS 292. Preceptorship 1 cr. (3P)
Clinical experiences in medical/surgical, obstetrics, or pediatrics utilizing the holistic nursing approach to practice and application of nursing process. Transition from student role to practitioner is emphasized. Prerequisite: consent of instructor.

NURS 300. Principles of Professional Nursing Practice 7 cr. (4+6P)
Focus on the principles, concepts, theories, and terminology central to the study of nursing and its evolution. Uses the nursing process as a framework for providing research-based professional nursing care. Includes clinical component. Restricted to Majors.

NURS 302. Foundations of Health Assessment 3 cr. (2+2P)
Theoretical basis and skills for biopsychosocial assessment of adults. Includes clinical component. Restricted to majors.

NURS 304. Principles of Professional Nursing Practice II 2 cr. (1+2P)
Introduction to the nursing process, history, professional roles, and concepts and terminology used in nursing. Includes clinical component.

NURS 306. Principles of Professional Nursing Practice II 5 cr. (2+6P)
Focuses on evidence-based care and beginning professional skills in meeting patient care needs. Includes clinical component.

NURS 314. Computer Technology for Nurses 3 cr.
Introduction to health care informatics and its use in nursing practice. Focus includes electronic communication resources, issues and technological applications that support nursing and health care.

NURS 315. Introduction to Professional Nursing for the R. N. 3 cr.
Transition course for the R.N. providing an overview of theories and concepts that are the bases for professional nursing practice.

NURS 322. Nursing Health Assessment 3 cr.
Theoretical basis for the biopsychosocial assessment of individual patients across the life span for the RN. Restricted to Majors.

NURS 323. Nursing Health Assessment: Clinical 1 cr. (2P)
Covers skills and techniques for nursing health assessment.

NURS 324. Nursing Care of the Older Adult 3 cr.
Survey course addressing nursing care provisions for the elderly population in a variety of acute, community and home settings.

NURS 325. Human Pathophysiology for Nursing 3 cr.
Concepts of alteration and adaptation in structure and function of the human body across the life span.

NURS 326. Pharmacology in Clinical Nursing Practice 4 cr.
Pharmacological concepts and principles and their implications for nursing practice. Includes techniques of dosage calculation for medication and fluid administration. Restricted to majors.

NURS 328. Human Pathophysiology Foundation for Nursing 4 cr.
Human pathophysiology concepts of adaptation and alteration in function and structure across the life span and their implications for nursing practice. Restricted to majors.

NURS 337. Foundations of School Nursing 3 cr.
Orientation to school nursing. Overview of health care in the schools. Qualifications, roles, and functions of school nurses. Health needs of diverse school populations, legal mandates for school health, and components of school nursing.

NURS 351. Clinical Nutrition 3 cr.
Focus is on applications of basic dietary concepts to specific diseases and conditions. Taught online.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Notes</th>
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<tbody>
<tr>
<td>NURS 352</td>
<td>Bioterrorism</td>
<td>3 cr.</td>
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<td>Examines the role of today's nurse in the face of real or potential radiologi-</td>
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<td>cal and chemical threats. Emphasis is placed on clinical and public education</td>
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<td>and safety as well as nursing/logical responses. Taught online.</td>
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<td>NURS 372</td>
<td>Adult Health Nursing I</td>
<td>8 cr. (4+4P)</td>
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<td>Theoretical basis for select acute and chronic illnesses related to adults is</td>
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<td>provided, and critical thinking is used to plan nursing care. Includes clinical</td>
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<td>component.</td>
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<td>NURS 373</td>
<td>Nursing the Psychiatric-Mental Health Client</td>
<td>5 cr. (3+4P)</td>
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<td>Theoretical and practical knowledge applied to provision of psychiatric-</td>
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<td>mental health nursing service across the health care continuum. Includes</td>
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<td>clinical component. Restricted to Majors.</td>
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<td>NURS 375</td>
<td>Introduction to Nursing Research</td>
<td>3 cr.</td>
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<td>Introduction to scientific inquiry. Evaluation and utilization of nursing</td>
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<td></td>
<td>research for clinical practice. Prerequisite: E ST 311 or consent of instruc-</td>
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<td>tor, NURS 303, NURS 326 and NURS 328 or admission to RN-BSN (BSNC) Option</td>
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<td>or admission to Roadrunner BSN (BSNR) Option.</td>
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<td>NURS 381</td>
<td>Introduction to Holistic Healing</td>
<td>3 cr.</td>
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<td>An experiential seminar; discussion, analysis, and demonstration of a variety</td>
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<td>of holistic healing techniques. Open to non nursing students.</td>
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<td>NURS 380V</td>
<td>Community and Public Service</td>
<td>3 cr. (2+2P)</td>
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<td>Focus is on students contribution to the community through volunteering, service,</td>
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<td>and civic responsibility. Emphasis on social problems using a problem-solving</td>
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<td>approach and a service-learning theoretical model.</td>
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<td>NURS 384</td>
<td>Meeting Spiritual Needs of Clients</td>
<td>3 cr.</td>
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<td></td>
<td>Examination of the nature of spirituality and the impact on themselves and</td>
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<td>others.</td>
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<td>NURS 385</td>
<td>Violence in a Healthy Community</td>
<td>3 cr.</td>
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<td>The relationship between anger and aggression as they impact the behavior-</td>
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<td>and health in the community. Community problems and nursing-related concerns</td>
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<td>addressed using a problem-solving approach.</td>
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<tr>
<td>NURS 388</td>
<td>Historical Perspectives of American Health Care</td>
<td>3 cr.</td>
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<td>Historical interpretations of health, illness, disease, diagnosis, and treat-</td>
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<td>ment. Surveys social history, methods, and studies related to medical science</td>
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<td></td>
<td>and nursing.</td>
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<tr>
<td>NURS 397</td>
<td>Special Topics</td>
<td>1-9 cr.</td>
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<td>Specific subjects to be announced in the Schedule of Classes. May be</td>
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<td>repeated for up to total of 21 credits.</td>
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<td>NURS 410</td>
<td>Adult Health Nursing II</td>
<td>6 cr. (3+3P)</td>
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<td>Focus is on the use of critical thinking to plan nursing care of adults with</td>
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<td></td>
<td>selected complex illnesses. Clinical component included.</td>
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<td>NURS 415</td>
<td>Parent-Child Nursing</td>
<td>8 cr. (4+4P)</td>
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<tr>
<td></td>
<td>Concepts and principles of nursing applied to healthy and ill infants, chil-</td>
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<td>dren, adolescents, and childbearing women within the context of the family.</td>
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<td>Includes clinical component.</td>
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<td>NURS 416</td>
<td>Older Adult Nursing</td>
<td>2 cr.</td>
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<td></td>
<td>Introduction to aging, health problems and issues associated with aging.</td>
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<td>Implications for nursing care of the elderly.</td>
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<td>NURS 420</td>
<td>Community Health Nursing</td>
<td>3 cr.</td>
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<td>Concepts basic to the nursing care of families, groups, and communities with</td>
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<td>an emphasis on health promotion, disease prevention, and health maintenance.</td>
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<td>NURS 424</td>
<td>Nursing in the Community</td>
<td>5 cr. (2.5+6P)</td>
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<td>Focus on community as the patient with prevention, treatment, education, and</td>
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<td>research emphasized. Cultural concepts and diversity relating to groups and</td>
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<td>communities are included. Includes clinical component.</td>
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<td>NURS 426</td>
<td>Community Health Nursing for the R.N.: Clinical</td>
<td>3 cr. (6P)</td>
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<td>Nursing process applied to the care of families, groups, and communities.</td>
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<td>NURS 427</td>
<td>Nursing in the Community</td>
<td>2 cr.</td>
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<td></td>
<td>Integration of community nursing theory, social and public health science with</td>
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<td>the roles, tools and skills needed to promote the health of populations and</td>
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<td>communities. Emphasis on nurses' role in the community. Main Campus Only.</td>
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<td>Prerequisites: Consent of Dept Head/SON Graduate Associate Director.</td>
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<td>NURS 428</td>
<td>Nursing Research</td>
<td>2 cr.</td>
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<td>This course provides an introduction to nursing research. It focuses on</td>
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<td>research utilization and review of the literature in topics relevant to nursing</td>
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<td>practice. Main Campus Only. Prerequisite: Consent of Department Head/SON</td>
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<td>Graduate Associate Director.</td>
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<td>NURS 429</td>
<td>Nursing Organization and Management</td>
<td>2 cr.</td>
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<td>Concepts of organization and delivery of care to groups of patients based on</td>
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<td>the nursing process. The role of the nurse as leader and manager will be</td>
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<td></td>
<td>emphasized. Main Campus Only. Prerequisites: Consent of Department</td>
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<td>Head/SON Graduate Associate Director.</td>
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<td>NURS 470</td>
<td>Nursing Organization and Management</td>
<td>3 cr.</td>
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<td>Concepts of organization and delivery of care to groups of patients based on</td>
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<td>the nursing process. Emphasis on the roles of the nurse as manager, leader,</td>
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<td>and change agent within health-care organizations.</td>
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<td>NURS 472</td>
<td>Community and Population Focused Nursing</td>
<td>6 cr. (2+4P)</td>
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<td>Synthesis of nursing, social, and public health science to develop health</td>
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<td>promotion, disease prevention, and protection strategies for communities and</td>
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<td>populations. Clinical component included.</td>
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<td>NURS 475</td>
<td>Issues and Trends in Professional Nursing</td>
<td>3 cr.</td>
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<td>Explores the challenges associated with issues and trends in health care and</td>
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<td>the legal and ethical implications of professional nursing practice.</td>
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<tr>
<td>NURS 478</td>
<td>Nursing Organization &amp; Management for the R.N.: Clinical</td>
<td>3 cr. (6P)</td>
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<td></td>
<td>Nursing process applied to organization, management, and delivery of health</td>
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<td>care. An integrating experience for the R.N. student designed to facilitate</td>
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<td>the transition to professional practice. Students work with mentors in a</td>
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<td>clinical setting to develop professional nursing roles related to leadership</td>
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<td>and management.</td>
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<td>NURS 479</td>
<td>Nursing Care for Complex Patients</td>
<td>8 cr. (2+12P)</td>
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<td></td>
<td>Principles and priorities of nursing care for patients across the life span</td>
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<td>experiencing complex care problems. Includes integrating experiences designed</td>
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<td>to facilitate the transition from student to professional nurse. Includes</td>
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<td>clinical component.</td>
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<tr>
<td>NURS 490</td>
<td>Independent Study</td>
<td>1-3 cr.</td>
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<tr>
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<td>Individual studies with prior approval of department head.</td>
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</table>

**O—OCCUPATIONAL EDUCATION COURSES**

Students enrolling in any of the O prefix courses will be advised that they are not intended to replace or substitute for any approved courses which are part of baccalaureate degree programs at New Mexico State University without approval of the appropriate dean and that any request for substitution may be denied. Requests for substitution must be considered on an individual basis by the dean of the college if a student elects to pursue a bachelor’s degree.

**OCAN- COMPUTER ANIMATION**

**OCAN 100. Introduction to 3D computer Animation**

Learning to work in Maya’s 3D environment. Introduction to nodes, scripting, polygons, NURBS and clustered. Working with the dependency graph, modeling, basic animation, character animation, and rendering.

**OCAN 120. Writing and Storyboarding for 3D Animation**

Learning good writing principles for creating storyboards that communicate the overall picture of the project, timing, scene complexity, emotion, and resource requirements. The final boards are geared towards the student’s final project. Prerequisites: OCAN 100 or consent of instructor.

**OCAN 140. Character rigging and Animation**

Advanced study of skeletal controls and deformers that allow for more creative and directed animation. Further study in kinetics, vectors, set driven keys, lattices, flexors and clusters. Prerequisites: OCAN 100 or consent of instructor.

**OCAN 160. Environmental Modeling, Shading and Lighting**

Modeling design techniques for creating natural and architecture environments used in animated films and games. Study of various lighting techniques, shading and shadowing, and creating atmospheres and reflections that bring computer generated 3D to life. Prerequisites: OCAN 100 and ART 150 and ART 161.

**OCAN 170. Digital Video Editing**

Introduction to digital video production, editing techniques and principles, working with Final Cut Pro, multiple DV inputs and creating movies for CD, DVD and web. Prerequisites: OCAN 160 or consent of instructor.

**OCAN 210. Environmental Scene Design**

Modeling design techniques to create environments and scenes used for animated films and gaming. Investigates both natural and architectural environments to be recreated in the virtual world. Prerequisites: OCAN 100 and OCAN 140 and ART 150 or consent of instructor.

**OCAN 220. Anatomical Character Design**

Focus on building anatomy-based 3D characters, beginning with clay modeling. Advanced study into the use of NURBS, subdivision surfaces, kinetics, texturing, and dynamic simulation. Prerequisites: OCAN 100 and OCAN 140 and ART 150 or consent of instructor.
OCAR 103. Electrical and Mechanical Controls 4 cr. (3+2P)
Focus on the development of personal characters) from sketch to render. Develop complete biographies of character, including origin, size, weight, personality, likes and dislikes, temperament, movement styles, and even favorite food. Build, skin and animate character with as many of these attributes as possible. Prerequisites: OCAR 100 and OCAR 140 and ART 150 or consent of instructor.

OCAR 240. Virtual Special Effects 3 cr. (2+2P)
Create advanced virtual special effects for both rigid and soft bodies, such as fire, smoke, fog and water, using Maya’s MEL, dynamic principles, mixing nodes, and advanced particle systems. How to drive particles over surfaces, add texture to flow, create surface tensions, and use collision events to drive textures. Study of integrating computer-generated imagery with real-life video and audio. Prerequisites: OCAR 100 and OCAR 140 and ART 150 or consent of instructor.

OCAR 287. Personal Animation Development 3 cr. (2+2P)
Students choose between producing an original animated short OR research, gather, develop and prepare concepts, models and materials to be used for their Final Workshop Project. Should be taken in the semester prior to Workshop class.) Prerequisite: consent of instructor.

OCAR 290. Advanced 3D Animation Workshop A 3 cr. (2+2P)
Program capstone. Utilize the skills learned from the program to produce a final animation. Group integrated projects emulate real-world animation studio environment. Prerequisites: OCAR 100, OCAR 120, OCAR 140, OCAR 160, OCAR 220, OCAR 240 and OCAR 270 or consent of instructor. Corequisite: OCAR 291.

OCAR 291. Advanced 3D Animation Workshop B 3 cr. (2+2P)
Program capstone. Program capstone. Utilize the skills learned from the program to produce a final animation. Group integrated projects emulate real-world animation studio environment. Prerequisites: OCAR 100, OCAR 120, OCAR 140, OCAR 160, OCAR 220, OCAR 240 and OCAR 270 or consent of instructor. Corequisite: OCAR 290.

OCAR 295. Creating the Demo Reel 1 cr. (1+1P)
Personalized creation of a 3 to 5 minute demo reel to prepare for seeking employment in the professional animation market.

OEAH- ANIMAL HANDLING
OEAH 201. Advanced Animal Care and Handling 3 cr.
Administration and management, health and science, husbandry, environmental matters, sanitation, safety, and laboratory technologies in the care of animals. Prerequisite: OEAH 101.

OEAM- AIR MECHANICS
OEAM 110. Introduction to Aircraft and Power Plant Mechanics 3 cr.
Theory and applications of aircraft drawing, materials, maintenance processes, weight and balance, inspection requirements, and ground support functions.

OEAM 111. Airframe Mechanics 3 cr.
Principles and technical procedures relating to airframe structures, systems and components.

OEAM 112. Power Plant Mechanics 3 cr.
Fundamentals of aircraft power plant mechanics to include construction of aircraft power plants, theory of operation, and maintenance concepts.

OEAR- HEATING, AIR CONDITIONING AND REFRIGERATION
OEAR 100. EPA Clean Air Act: Section 608 1 cr.
Refrigerant certification preparation to include basics of refrigerant bearing equipment, ozone depletion and the new legislation, technician categories covered and the certification examination.

OEAR 101. Fundamentals of Refrigeration 4 cr. (3+2P)
Refrigeration cycle and the various mechanical components. Use of special tools, equipment, and safety precautions.

OEAR 102. Fundamentals of Electricity 4 cr. (3+2P)
Introduction to electricity theory, OHM's Law, circuits, AC/DC, and practical applications.

OEAR 103. Electrical and Mechanical Controls I 4 cr. (3+2P)
Applications of basic electrical and mechanical controls. Reading and drawing diagrams of simple refrigerating equipment. Safe use of testing equipment. Prerequisites: OEAR 101 and OEAR 102, or consent of instructor.

OEAR 104. Domestic Refrigeration 4 cr. (3+2P)
Installation and maintenance of refrigeration systems. Prerequisites: OEAR 101, and OEAR 102, or consent of instructor.

OEAR 105. Introduction to Building Trades and Maintenance 4 cr. (4+1P)
Basic safety; introduction to construction math, hand tools, power tools, blueprints; basic rigging and soft skills for the construction and maintenance industry. Same as OEMN 105.

OEAR 107. Industrial Heat Transfer Systems 4 cr. (3+2P)
Heat transfer systems in an industrial environment. Covers ventilation and methods to increase air quality. Comfort and process heating and cooling with emphasis on troubleshooting. Course for nonmajors. Prerequisite: OEAR 102 or consent of instructor.

OEAR 110. Professional Development and Leadership 3 cr.
As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. May be repeated for a maximum of 6 credits. Consent of instructor required.

OEAR 118. Technical Math for Heating, Air Conditioning, and Refrigeration Technicians 3 cr. (2+2P)
Geometry, algebra, and basic arithmetic pertaining to mathematical applications in the heating, air conditioning, and refrigeration trades.

OEAR 205. Commercial Refrigeration Systems 4 cr. (3+2P)
Service and maintenance of commercial refrigeration equipment to include evacuation and charging procedures, electrical diagrams, and compressors and accessories. Prerequisites: OEAR 103 or consent of instructor.

OEAR 207. Residential Air Conditioning Systems 4 cr. (3+2P)
Applications and types of equipment used in comfort cooling. Preventive maintenance, service, and repairs common to evaporative coolers and refrigerated air conditioning systems. Air properties and psychrometrics. Prerequisite: OEAR 103 or consent of instructor.

OEAR 210. Commercial Air Conditioning and Heating Systems 4 cr. (2+3P)
Covers troubleshooting mechanical and electrical problems associated with HVAC equipment in commercial buildings. Includes gas, electric, and heat pump systems. Prerequisite: OEAR 103 or consent of instructor.

OEAR 211. Heat Pump Systems 4 cr. (3+2P)
Reverse cycle refrigeration systems utilized in comfort heating and cooling. Troubleshooting mechanical electrical problems associated with heat pumps. OEAR 103 or consent of instructor.

OEAR 213. Practicum 4 cr.
Working in the field with journeyman service technicians. Develop and apply job skills. Prerequisite: consent of instructor.

OEAR 220. Introduction to Sheet Metal Fabrication 4 cr. (3+2P)
Introduction to sheet metal fabrication to include hands-on practical laboratory applications, cutting and forming procedures, identifying types and gauges. Design and layout techniques. Prerequisite: OETS 118 or equivalent math or consent of instructor.

OEAR 225. New Mexico Mechanical Codes: HVAC 1-4 cr.
Principles and regulations developed for HVAC, sheet metal, and plumbing occupations to include terminology, ventilation air supply, exhaust systems, duct systems, combustion air, chimneys and vents, boilers/water heaters, refrigeration, panel and hydronic panel heating, fuel gas piping, storage systems, solar systems, and workmanship standards. May be repeated for a maximum of 12 credits.

OEAR 255. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEAR 280. Special Problems 1-4 cr.
Individual studies related to heating, air conditioning, and refrigeration. Prerequisites: OEAR 101, OEAR 102, and consent of instructor.

OEAR 291. Field Experience 1-6 cr.
Supervised on-the-job training/field experience at an approved work site. Student is supervised and evaluated by the sponsor and instructor. Student will meet with the regularly scheduled class. Prerequisite: consent of instructor.

OEAR 295. Basic Heating, Ventilation, and Air Conditioning Systems 4 cr. (3+2P)
Layout and design of energy efficient combination systems (heating and cooling) found in residential and light commercial buildings. Complete heat loss and heat gain calculations will be performed through computer software. Covers duct design for whole building comfort. Prerequisites: OEAR 207, OEAR 208, and OEAR 210, or consent of instructor.
OEAT - AUTOMOTIVE TECHNOLOGY

OEAT 100. General Mechanics 3 cr. (1+4P)
Use of hand tools; shop machinery; measuring devices, fasteners, couplings; application of fuels; lubricants; bearings; V-belt, gear and chain drives. Shop safety.

OEAT 101. Introduction to Automotive Technology 1 cr.
An overview and history of modern automotive technology. Career specializations including career options and description of career fields. Related math, communication skills, and DC electronics.

OEAT 102. Electrical Measuring Instruments 2 cr. (1+2P)
Selection, operation, and care of electrical measuring instruments.

OEAT 103. Auto Mechanics Fundamentals 4 cr. (2+4P)
Theory and operation of all areas of auto mechanics. Basic repair and maintenance operations.

OEAT 104. Introduction to Auto Body Repair 4 cr. (2+4P)
Basics of automotive body repair, including safety, preparation of surfaces for painting, metal straightening, brazing, heat shrinking, use of plastic body fillers, and refinishing of repaired areas.

OEAT 105. Welding 4 cr. (2+4P)
Set-up and adjustment of oxyacetylene and arc welding equipment, identification of metals and rod application. Skill development in laying weld beads and different weld positions.

OEAT 107. Automotive Reference/Schematic Reading 2 cr. (1+2P)
Reading, understanding, and use of automotive references/schematics.

OEAT 110. Basic Electricity/Electronics 5 cr. (3+4P)
Same as OEET 110.

OEAT 112. Basic Gasoline Engines 5 cr. (2+6P)
Principles of gasoline engine operation. Identification, design, function of engine components; engine disassembly and reassembly; trouble shooting, and rebuilding heads.

OEAT 117. Electronic Analysis and Tune-Up of Gasoline Engines 5 cr. (2+6P)
Theory and operation of ignition and emission control systems and fuel system. Use of troubleshooting equipment and diagnostic equipment. Prerequisite: OEAT 120 or consent of instructor.

OEAT 118. Technical Math for Mechanics 3 cr. (2+3P)
Mathematical applications for the automotive trade.

OEAT 119. Manual Transmission/Clutch 5 cr. (2+6P)
Manual transmission, transfer cases, and clutch operating principles. Students will diagnose problems, remove and replace, disassemble, repair, and assemble units.

OEAT 120. Electrical Systems 4 cr. (2+4P)
Troubleshooting and repair of starters, alternators, and associated circuits. Reading electrical diagrams, diagnosis and repair of electrical accessories. Prerequisite: consent of instructor.

OEAT 121. Differentials/Driveaxles 4 cr. (2+4P)
Differential, drive axle, CV joint operating principles. Students will diagnose problems, remove and replace, disassemble, repair, and assemble units.

OEAT 125. Brakes 5 cr. (2+6P)
Theory of operation, diagnosis, repair, and maintenance of disc and drum brakes; safety and use of special tools.

OEAT 126. Suspension, Steering, and Alignment 5 cr. (2+6P)
Types of steering systems, suspension maintenance and repair, four-wheel alignment procedures.

OEAT 127. Basic Automatic Transmission 4 cr. (2+4P)
Theory and operation of the automatic transmission; maintenance, troubleshooting, diagnosis, and repair of components.

OEAT 128. Advanced Automatic Transmission 4 cr. (2+4P)
Overhaul procedures and component repair of automatic transmission and transaxles.

OEAT 130. Introduction to Transportation Industry 3 cr.
State and national traffic statutes that relate to the trucking industry. A Commercial Driver’s License Learner’s Permit will be obtained through successful completion of the course. Prerequisites: Must be 18 years of age, have a current driver’s license and consent of instructor.

OEAT 131. Class A CDL 6 cr. (3+6P)
Instruction in how to perform proper pre-trip inspection; hands-on training with a tractor-trailer unit on the backing range and street driving to develop skills necessary to pass Class A CDL exam. Prerequisites: Class A CDL restricted license (permit) and either restriction of D.O.T. government medical card, and consent of instructor.

OEAT 132. Automotive Air Conditioning and Heating Systems 4 cr. (2+4P)
Theory and operation, reading schematic diagrams, troubleshooting, repair, and replacement operations performed.

OEAT 137. Fuel Systems and Emission Controls 4 cr. (2+4P)
Covers theory and operation of fuel system and emission control. Troubleshooting, vacuum diagrams, overhaul, repair and adjustment of carburetion and fuel injection. Prerequisites: OEAT 117 or consent of instructor.

OEAT 139. Automotive Computer Controls 4 cr. (2+4P)
Same as DEPM 139.

OEAT 140. Principles of Automotive Computer Controls 2 cr.
Theory and operation of common sensors and control systems. Use of proper diagnostic and service procedures.

Theory and operation of the most commonly used fuel injection systems. Proper diagnostic and service procedures. Prerequisite: consent of instructor.

OEAT 142. Automotive Scope Analysis 4 cr. (2+4P)
Troubleshooting and complete analysis of the automobile using diagnostic scope equipment. Prerequisite: OEAT 117 or consent of instructor.

OEAT 145. Shop Management 3 cr.
Covers principles of shop safety, regulations, layout, and operation management.

OEAT 151. Auto Parts Counter Techniques 3 cr. (2+2P)
Overview of auto parts sales and warehousing techniques, including the use of catalogues, microfiche, and computers.

OEAT 221. Cooperative Experience I 1-6 cr.
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U. Prerequisite: consent of instructor.

OEAT 255. Special Problems in Automotive Technology 1-5 cr.
Individual studies in areas directly related to automotive technologies. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEAT 295. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes.

OEAV - AVIATION

OEAV 100. Ground School I for Solo Operations 3 cr.
Ground instruction to supplement optional flight instruction for initial solo operations. A student Pilot Certificate/FAA Medical Certificate is optional for those who elect to contract privately with a qualified instructor for flight instruction.

OEAV 101. Private Pilot I 3 cr. (2+2P)
Flight and ground instruction to accomplish initial solo operations. A student Pilot Certificate/FAA Medical Certificate is mandatory.

OEAV 102. Private Pilot II 3 cr. (2+2P)
Flight and ground instruction to qualify for a Private Pilot license. Includes night training, dual and solo cross country and basic simulated instrument training. Prerequisites: consent of instructor.

OEAV 110. History of Aviation 3 cr.
Evolution of aviation industry from inception and military application through modern air transport operation.

OEAV 115. Ground School II for Private Pilot License 3 cr.
Ground instruction to supplement optional flight instruction for a private pilot license. Flight training and simulated instrument training is optional for those who elect to contract privately with qualified instructor for flight instruction. Prerequisite: OEAV 110 or consent of instructor.

OEAV 121. Private Pilot, Ground Training 3 cr.
Ground training and practical exercise designed to prepare student to pass the Federal Aviation Administration’s Private Pilot. Airplane knowledge and practical tests. Prerequisite: consent of instructor.

OEAV 122. Private Pilot, Flight Training 3 cr. (1+1P)
Flight training and practical exercise designed to prepare student to pass the Federal Aviation Administration’s Private Pilot. Airplane knowledge and practical tests. Prerequisite: OEAV 121 or consent of instructor.

OEAV 125. Aviation Weather 3 cr.
Covers causes and effects of weather phenomena and impact on aviation operations.
OEAV 128. Instrumentation Rating, Single-Engine Airplane 5 cr. (3+4P)
Ground and flight training and practical exercise designed to prepare student to pass the FAA knowledge test and practical test for the instrument rating in a single-engine airplane. Prerequisites: consent of instructor.

OEAV 140. Commercial Pilot I, Single-Engine Airplane 4 cr. (2+4P)
Ground and flight training and practical exercise designed to prepare student to pass FAA knowledge test and practical test for the commercial certificate in single-engine land airplane. Prerequisite: consent of instructor.

OEAV 141. Commercial Pilot II, Single-Engine Airplane 5 cr. (2+6P)
Continuation of OEAV 140 plus actual FAA testing for commercial certificate. Prerequisite: OEAV 140 or consent of instructor.

OEAV 210. Fundamentals of Instruction Pilot) 1 cr.
Ground training designed to prepare student to pass the FAA knowledge test for Fundamentals of Instruction. Prerequisite: consent of instructor.

OEAV 220. Certified Flight Instructor, Airplane 3 cr. (2+4P)
Ground and flight training designed to prepare student to pass the FAA knowledge test and practical test for rating as Certified Flight Instructor, Airplane, SEL. Prerequisite: OEAV 210 or consent of instructor.

OEAV 230. Certified Flight Instructor, Instrument 3 cr. (2+2P)
Ground and flight training designed to prepare student to pass the FAA knowledge test and practical test for rating as Certified Flight Instructor, Instrument Airplane. Prerequisite: consent of instructor.

OEAV 240. Commercial Pilot, Multi-Engine Land Airplane 2 cr. (1+2P)
Ground and flight training designed to prepare student to pass the FAA practical test for rating as Commercial Pilot, Multi-Engine Land Airplane. Prerequisite: consent of instructor.

OEAV 250. Certified Flight Instructor, Multi-Engine Airplane 3 cr. (2+2P)
Ground and flight training designed to prepare students to pass the FAA knowledge test for rating as Certified Flight Instructor, Airplane, Multi-Engine. Prerequisite: consent of instructor.

OEBM- BIOMEDICAL TECHNOLOGY

OEBM 140. Applied Human Biology for Biomedical Technology 3 cr.
Essential human biology, anatomy, physiology and medical terminology for biomedical equipment technicians. Focus on the vocabulary necessary for effective communication in the hospital environment as part of the health care team. Restricted to majors.

OEBM 141. Introduction to Medical Electronics for Biomedical Technology 3 cr.
Introduction to the biomedical electronics technology field. Physiologic measurements, including cardiovascular, pulmonary, and pressure and temperature. Operation of common biomedical electronic equipment. Hospital safety regulations explained. Prerequisites: OEBM 140 and consent of instructor. Corequisite: ET 182 and ET 184. Restricted to majors.

OEBM 200. Biomedical Practicum 2 cr. (6P)
Practice working in industry as a biomedical electronics technologist. Students work on a variety of medical equipment and job tasks. An employer evaluation, student report, and a minimum of 100 work hours are required. Prerequisites: OEBM 141 and consent of instructor. May be repeated for a maximum of 6 credits. Restricted to majors.

OEBM 240. Introduction to Radiography Systems for Biomedical Technology 3 cr.
The fundamentals of diagnostic radiography equipment will be explored. Principles of an x-ray system will be explained including the x-ray generation, image formation and film processing. Focus will be on both safety and quality. Prerequisites: OEBM 140 and consent of instructor. Corequisite: ET 246. Restricted to majors.

OEBT- BUILDING TRADIES

OEBT 100. Building Trades I 8 cr. (2+12P)
Equipment and general safety. Human relations, building construction surveying, footings, foundation form work, framing, sheathing, insulation. Basic electrical wiring and plumbing. Classroom instruction, on-the-job training, and problem solving.

OEBT 101. Introduction to Construction I 2 cr. (2+1P)
Basic safety, including personal protective equipment, how to perform basic construction tasks safely, and what to do if an accident occurs. Includes basic construction methods. Prerequisite: working as a plumber’s apprentice.

OEBT 102. Introduction to Construction II 2 cr. (2+1P)
Introduction to power and hand tools, blueprints, and basic rigging hardware and techniques. Prerequisite: working as a plumber’s apprentice.

OEBT 103. Introduction to Construction Laboratory 3 cr.
Provides students the opportunity to practice skills they have acquired in OEBT 101 and OEBT 102. It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCER) Carpentry Program. Corequisite(s): OEBT 101 or OEBT 102. Restricted to: Community College campuses only.

OEBT 104. Woodworking Skills I 3 cr. (1+4P)
Use and care of hand tools and elementary power tools, safety procedures, and supervised project construction.

OEBT 105. Woodworking Skills II 3 cr. (1+4P)
Advanced woodworking skills to include use of advanced power tools, power tool safety, and supervised construction. Prerequisite: OEBT 104 or consent of instructor.

OEBT 106. Woodworking Theory and Practice 3 cr. (2+2P)
History of wood manufacturing, industrial techniques, wood characteristics, stains and finishes. Design and construction of minor wood projects.

OEBT 107. Painting I 4 cr. (2+4P)
Types and applications of paints and clear coatings. Use of fasteners, caulks, and sealants. Community Colleges only.

OEBT 108. Painting Level II 4 cr. (2+4P)
Continuation of OEBT 107. Painting failures and remedies, preparation, drywall patching and wood finishing. Prerequisite(s): OEBT 107. Restricted to: Community College campuses only.

OEBT 110. Blueprint Reading for Building Trades Same as DRFT 151, OEET 101, OEPB 110. 4 cr. (2+4P)

OEBT 111. Small Equipment Maintenance and Repair 4 cr. (2+4P)
Covers small engine theory, troubleshooting and repair, auto maintenance, hydraulic theory and repair lubricants, batteries and scheduled tool maintenance. Community Colleges only.

OEBT 112. Basic Masonry 4 cr. (2+4P)
Covers use of brick and concrete blocks; basic techniques for mixing mortar and laying masonry units; describes the hand and power tools used in masonry, including safety; includes mathematics used to perform calculations related to masonry units; explains the types and properties of mortar and the materials used in mixtures. Community Colleges only.

OEBT 113. Masonry Level I 4 cr. (2+4P)
Covers all types of concrete and clay masonry units and their applications; covers ties and reinforcing materials; includes layout, set-up, spreading mortar, cutting brick and block, laying to the line, making corners, troweling joints, patches and cleanup. Community Colleges only.

OEBT 114. Basic Carpentry 3 cr. (1+4P)
Covers orientation to the trade; wood building materials, fasteners, and adhesives; detailed description and explanations of hand-operated and power tools, including safety; framing basics including laying out and constructing of wood floors, walls and ceilings and includes roughing in of door and window openings. Community Colleges only.

OEBT 115. Carpentry Level I 3 cr. (1+4P)
Describes the various kinds of roofs and provides instructions for laying out of the different roofing systems. Describes the various types of windows, skylights, and exterior doors and provides instruction for installation. Community Colleges only.

OEBT 116. Basic Carpentry Lab 2 cr.
Provides students the opportunity to practices skills they have acquired in OEBT 114 and OEBT 115. It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCER) Carpentry Program. Pre/Corequisite(s): OEBT 114 or OEBT 115. Restricted to: Community College campuses only.

OEBT 118. Math for Building Trades 3 cr.
Geometry, algebra, arithmetic, and basic trigonometry pertaining to mathematical applications in the building trades field. Prerequisite: CCDM 103N. Same as OEBT 118, DRFT 118, OEPB 118.

OEBT 120. Building Materials I 4 cr. (2+4P)
Covers various types of building materials and their uses in the construction industry.

OEBT 121. Construction Law 3 cr.
Using the New Mexico Contractors Reference manual, this course covers licensing requirements and regulations, business, law and other important aspects of owning and running a construction business. Restricted to: Community College campuses only.
OEBT 200. Building Trades II 8 cr. (2+12P)
Continuation of OEBT 100. Roofing; exterior and interior finish; masonry; door, window, and cabinet installation.

OEBT 206. Advanced Cabinetmaking 3 cr. (1+3P)
Advanced cabinetmaking skills, to include expert use of hand and power tools, professional construction and finishing techniques. Prerequisites: OEBT 105, OEBT 106, or consent of instructor.

OEBT 211. Small Equipment Maintenance & Repair II 4 cr. (2+4P)
Advanced, hands on work experience. Students will work on small engines, explore the various aspects of advanced 4 stroke engine and 2 stroke engine techniques and apply skills and theory taught in the classroom and shop. Along with tours and various shop technicians. Prerequisite(s): OEBT 111. Restricted to: Community College campuses only.

OEBT 214. Intermediate Carpentry I 3 cr.
Describes the properties, characteristics, procedures and uses of cement, aggregates, and other materials that, when mixed together, form different types of concrete. Covers procedures for estimating concrete volume and testing freshly mixed concrete, different types of reinforcing materials. Prepares students for working in and around excavations, preparing building foundations, capacities of soils; procedures used in shoring, sloping, and shielding trenches and excavations; trenching safety requirements, recognition of unsafe conditions; and mitigation of groundwater and rock when excavating foundations. Prerequisite(s): OEBT 101, 102, 103, 114, 115 & 116. Corequisite(s): OEBT 216. Restricted to: Community College campuses only.

OEBT 215. Intermediate Carpentry II 3 cr.
Covers site layout tools and methods. Layout and construction of different types of shallow foundations, forming of slabs-on-grade, curbing and paving. The module also provides an overview of the assembly, erection, and stripping of gang forms. This module covers the types of elevated decks and the formwork systems and methods used in their construction. Advanced systems: flat slab systems, flying forms, shoring and re-shoring systems, how lift-up concrete construction is used, how lift-up panels are formed, erected, and braced, installation of rebar and the types of embedments used to lift and brace the panels. Prerequisite(s): OEBT 214. Corequisite(s): OEBT 216. Restricted to: Community College campuses only.

OEBT 216. Intermediate Carpentry Laboratory 2 cr.
Provides students the opportunity to practice skills they have acquired in OEBT 214 and OEBT 215. It includes task-oriented projects in which students can apply many of the skills and knowledge that have been presented throughout the National Center for Construction and Education Research (NCCEER) Carpentry Program. Prerequisite(s): OEBT 214 or OEBT 215. Restricted to: Community College campuses only.

OEBT 217. Building and the Environment 2 cr.
Introduction to LEED’s, and Green Building Fundamentals, sustainability, sustainable design and green building evaluating cost implication of green building. Describes site development; managing site water runoff, improving a project’s water use efficiency. Discusses renewable energy sources, and introduces student to generating power on-site using renewable energy sources, improving a building’s indoor environment quality, improving the building industries’ environmental performance and environmental aspects of building maintenance, re-use and conservation. Restricted to: Community College campuses only.

OEBT 220. Building Materials II 4 cr. (2+4P)
Choice of types of materials for specific jobs; determination of sizes and amounts.

OEBT 221. Cooperative Experience I 1-4 cr.
Supervised cooperative work program. Student is employed in an approved occupation and is supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U. Prerequisite: consent of instructor.

OEBT 224. Advanced Carpentry I 3 cr.
Covers the equipment, principles, and methods used to perform distance measurement and leveling. In addition to layout for surveyors, field engineers, and carpenters; interpretation and use of site/plot plan drawings; and methods used for on-site communication. Covers the principles, equipment, and methods used to perform site layout. Covers commercial Construction: roofing materials and structures and describes the procedures for installing commercial. Covers installation of a variety of finishing materials, including paneling, and wainscoting. Also covers installation of curtain walls and fire-rated commercial construction. Also covers a variety of stair systems used in commercial construction.

OEBT 225. Advanced Carpentry Laboratory 2 cr.
Provides practical task-oriented hands-on experience in which the student applies the skills and knowledge presented in the OEBT 225 and OEBT 226. Completion of OEBT 225/226 will lead towards Certification under the National Center for Construction Education and Research (NCCEER) Carpentry Program. Pre/Corequisite(s): OEBT 224 or OEBT 225. Restricted to: Community College campuses only.

OEBT 250. Building Trades III 6 cr. (3+3P)
Continuation of OEBT 200.

OEBT 255. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes.

OEBT 290. Special Problems in Building Technology 1-4 cr.
Individual studies in areas directly related to building technologies. Prerequisite: consent of instructor.

OECC- CHILD CARE

OECC 126. Child Health and Safety 3 cr.
Child safety, cardiopulmonary resuscitation, hygiene, childhood illness, and sick child care.

OECS- COMPUTER TECHNOLOGY

OECS 101. Computer Basics 1 cr.
Hands-on instruction to introduce computer use and commonly used software. Graded S/U.

OECS 105. Introduction to Microcomputer Technology 3 cr.
History and impact of computers on the economy and society. Development of basic skills in operating systems, word processing, spreadsheets, and databases.

OECS 110. Introduction to Power Point 1 cr.
An introduction to Power Point software to develop business presentations. Includes concepts of basic presentation methods and graphic design principles. Students will create and deliver presentations using text, charts, digitized images, and sound. Prerequisites: BCIS 110, C S 110, or OECS 105.

OECS 111. Introduction to Outlook 1 cr.
An introduction to Outlook email, calendar, contacts, tasks, and notes. Includes integrating other applications with Outlook components. Prerequisite: C S 110, BCIS 110, or OECS 105.

OECS 120. Computer Operations 3 cr.
Operation of digital computer; structure of computer system and operating procedures; use and care of peripheral devices; typical machine run procedures. Hands-on experience.

OECS 125. Operating Systems 1-3 cr.
Installation of current operating systems software, and utilities to include systems configuration, file, and hardware management. Prerequisite: either BCIS 110, C S 110 or OECS 105. May be repeated for a maximum of 6 credits.

OECS 128. Operating Systems Linux/Unix 3 cr.
Installation of current operating system software and utilities including systems configuration, file and hardware management. Prerequisite: either BCIS 110, C S 110 or OECS 105. May be repeated for a maximum of 6 credits.

OECS 140. Introduction to Game Production Industry 3 cr.
Students explore the business behind game production, understanding how game companies are organized and funded, positions within the game industry, and what skills game producers need. Prerequisites: Either BCIS 110, C S 110, or OECS 105.

OECS 141. Introduction to Interactive Game Programming 3 cr.
This introductory programming class reviews the basics of programming, including the object-oriented approach. Students will de-construct existing games, develop their own code, and gain an appreciation for coding strategies. May be repeated for a maximum of 6 credits. Community Colleges Only. Prerequisites: C S 110, BCIS 110, or OECS 105.

OECS 150. Introduction to Programming Using Visual Basic 4 cr.
Introduction to algorithmic problem-solving concepts, structured programming design-oriented application programming interface development. Solutions to problems are implemented using the Visual Basic programming language in the Windows environment, with connection to Access databases as applicable. Prerequisite(s): CS 110, OECS 220, and MATH 120. Restricted to: Community College campuses only.

OECS 155. Special Topics - Introductory Computer Technology .5-4 cr.
Topics to be announced in the Schedule of Classes. May be repeated up to 8 credits.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>OECS 170</td>
<td>PASCAL Programming I</td>
<td>3 cr.</td>
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<tr>
<td>OECS 175</td>
<td>Assembly Language Programming I</td>
<td>3 cr.</td>
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<tr>
<td>OECS 185</td>
<td>PC Maintenance and Selection I</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 190</td>
<td>C Programming I</td>
<td>3 cr.</td>
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<tr>
<td>OECS 191</td>
<td>C Programming II</td>
<td>3 cr.</td>
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<tr>
<td>OECS 192</td>
<td>C Programming I</td>
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<tr>
<td>OECS 193</td>
<td>C Programming II</td>
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<tr>
<td>OECS 195</td>
<td>Java Programming I</td>
<td>3 cr.</td>
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<tr>
<td>OECS 196</td>
<td>Java Programming II</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 200</td>
<td>Accounting on Microcomputers</td>
<td>3 cr.</td>
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<tr>
<td>OECS 201</td>
<td>UNIX Operating System</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 204</td>
<td>Linux Operating System</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 205</td>
<td>Advanced Operating Systems: Administration</td>
<td>3 cr.</td>
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<tr>
<td>OECS 206</td>
<td>Advanced Financial Software</td>
<td>3 cr.</td>
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<tr>
<td>OECS 207</td>
<td>Windows</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 208</td>
<td>Internet Applications</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 209</td>
<td>Computer Graphic Arts</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 210</td>
<td>Survey of Current Microcomputer Software</td>
<td>3 cr.</td>
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<tr>
<td>OECS 211</td>
<td>Word Processing Applications</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 212</td>
<td>Introduction to the Automated Office</td>
<td>3 cr.</td>
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<tr>
<td>OECS 213</td>
<td>Image Processing</td>
<td>1 cr.</td>
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<tr>
<td>OECS 214</td>
<td>Creating a Web Page</td>
<td>1 cr.</td>
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<tr>
<td>OECS 215</td>
<td>Spreadsheet Applications</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 216</td>
<td>Programming for the Web</td>
<td>3 cr.</td>
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<tr>
<td>OECS 218</td>
<td>Web Page Programming Support</td>
<td>3 cr.</td>
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<tr>
<td>OECS 221</td>
<td>Cooperative Experience I</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 225</td>
<td>Computer Graphics for Business</td>
<td>3 cr.</td>
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<tr>
<td>OECS 230</td>
<td>Data Communications and Networks I</td>
<td>1-3 cr.</td>
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<td>OECS 231</td>
<td>Data Communications and Networks II</td>
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<tr>
<td>OECS 232</td>
<td>Implementing and Supporting Networks I</td>
<td>3 cr.</td>
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<tr>
<td>OECS 233</td>
<td>Implementing and Supporting Networks II</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 234</td>
<td>Transmission Control Protocol/Internet Protocol</td>
<td>1-3 cr.</td>
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<tr>
<td>OECS 236</td>
<td>Structure Query Language (SQL)</td>
<td>1-3 cr.</td>
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</table>

OECS 170. PASCAL Programming I  
Vocabulary, syntax, structure, and application of PASCAL. Prerequisite: one semester of any programming course.

OECS 175. Assembly Language Programming I  
Vocabulary, syntax, structure, and application of assembly language programs. Prerequisite: one semester of any programming course.

OECS 185. PC Maintenance and Selection I  
Selecting, installing, configuring, troubleshooting, and maintaining microcomputers and peripheral devices. Prerequisites: BCIS 110, CS 110 or OECS 105.

OECS 190. C Programming I  
Development of skills in programming using the C Programming language. Prerequisite: one semester of any programming course.

OECS 191. C Programming II  
Continuation of OECS 190. Prerequisite: OECS 190.

OECS 192. C Programming I  
Development of skills in programming using the C programming language. Prerequisite: one semester of any programming course.

OECS 193. C Programming II  
Continuation of OECS 192. Prerequisite: OECS 192.

OECS 195. Java Programming I  
Continuation of OECS 195. Prerequisite: OECS 195. May be repeated for a maximum of 9 credits.

OECS 196. Java Programming II  
Continuation of OECS 196. Prerequisite: OECS 196. May be repeated for a maximum of 9 credits.

OECS 200. Accounting on Microcomputers  
Fundamental accounting principles using popular microcomputer software to include G/L, A/R, A/P, purchase order, billing, inventory, and forecasting modules. Prerequisite: ACCT 252 or BOT 121.

OECS 201. UNIX Operating System  
Introduction to the UNIX operating system using Telnet to access a remote UNIX system. Basic UNIX commands and file system concepts. Prerequisite: CS 110, BCS 110G or OECS 105.

OECS 204. Linux Operating System  
Install and configure the Linux operating system on X86 systems. Covers issues involved in maintaining operating system, networking, creating and managing users, and installing and updating software. General procedures for working with operating system includes maintaining disk space, preserving system security, and other related topics. Prerequisite: CS 110, BCS 110G or OECS 105.

OECS 205. Advanced Operating Systems: Administration  
Examines operating systems designed for PC, minicomputers and mainframes. Covers maintaining operating systems, creating and managing users, and installing and updating software. General procedures for working with operating systems will include maintaining disk space, preserving system security, providing mail services, among other topics. Prerequisite: OECS 128. May be repeated for a maximum of 6 credits.

OECS 206. Advanced Financial Software  
In-depth analysis and application of financial software packages. Prerequisite: OECS 200.

OECS 207. Windows  
Windows concepts including program manager, icons, multiple applications and file/disk management. Windows applications introduced. Prerequisites: OECS 105 or BCS 110G or CS 110G or consent of instructor. May be repeated for a maximum of 6 credits under different subtitles listed in the Schedule of Classes.

OECS 208. Internet Applications  
Survey of the Internet to include e-mail, file transfer, current search techniques, the World Wide Web and basic Web page development. Prerequisite: CS 110G, BCIS 110 or OECS 105. May be repeated for a maximum of 6 credits.

OECS 209. Computer Graphic Arts  
Basic graphics composition using computer programs to include editing and manipulating graphic images, clip-art, and printing of pictures. Prerequisites: OECS 105, CS 110, or OECS 101. May be repeated for a maximum of 6 credits under different subtitles listed in the Schedule of Classes.

OECS 210. Survey of Current Microcomputer Software  
Overview of current software packages for the microcomputer. Prerequisites: CS 110, BCIS 110 or OECS 105.

OECS 211. Word Processing Applications  
Basic word processing to include composing, editing, formatting, and printing of documents. Prerequisites: CS 110, BCIS 110 or OECS 105. May be repeated under different subtitles listed in the Schedule of Classes for a maximum of 6 credits. OECS 212. Introduction to the Automated Office  
Covers applications of integrated business software packages. Same as BOT 210.

OECS 213. Image Processing  
Introduction to digital imaging acquisition and editing. Use of digital cameras and computer graphic software for business and personal use. Prerequisites: CS 110, BCIS 110 or OECS 105. Graded S/U.

OECS 214. Creating a Web Page  
Introduction to creating Web pages for business and personal use. Prerequisites: CS 110, BCIS 110 or OECS 105. Graded S/U.

OECS 215. Spreadsheet Applications  
Use of spreadsheets to include graphics and business applications. Prerequisites: CS 110, BCIS 110 or OECS 105. May be repeated for a maximum of 6 credits.

OECS 216. Programming for the Web  
Designing web-based applications using HTML and Java, Perl and C programming languages. Prerequisite: one semester of any programming course.

OECS 218. Web Page Programming Support  
Languages that support Web page development including HTML, Active X and Java Script. Implementation of forms and style sheets in Web pages also presented. Prerequisites: CS 110, BCIS 110 or OECS 105.

OECS 220. Database Application and Design  
Creating, sorting, and searching of single and multifile databases to include report generation and programming database commands. Prerequisites: CS 110, BCIS 110 or OECS 105. May be repeated for a maximum of 6 credits under different subtitles listed in the Schedule of Classes.

OECS 221. Cooperative Experience I  
Student employed at approved work site; supervised and rated by employer and instructor. Each credit requires specified number of hours of on-the-job work experience. Prerequisite: consent of instructor. Restricted to OECS majors. Graded S/U.

OECS 222. Cooperative Experience II  
Continuation of OECS 221. Each credit requires specified number of hours of on-the-job work experience. Prerequisite: OECS 221 and consent of instructor. Restricted to OECS majors. Graded S/U.

OECS 225. Computer Graphics for Business  
Programming common computer graphics for business. Creation of computer special effects. Prerequisites: CS 110, BCIS 110 or OECS 105.

OECS 227. Computer Applications for Technicians  
Computer applications for service technicians in various disciplines. Hardware and software applications explored. Includes operating systems, high level programming, and networking hardware and software.

OECS 230. Data Communications and Networks I  
Definition of data communication; survey of hardware applications and teleprocessor software; examination and design of networks. Prerequisite: OECS 185. May be repeated for a maximum of 6 credits.

OECS 231. Data Communications and Networks II  
Installation and application of popular microcomputer network software. Prerequisite: OECS 230. May be repeated for a maximum of 6 credits.

OECS 232. Implementing and Supporting Networks I  
Knowledge and skills relating to post-installation and day-to-day administration tasks in a single-domain or multiple-domain network. Prerequisites: OECS 230 or OECS 261.

OECS 233. Implementing and Supporting Networks II  
Implementation, administration, and troubleshooting networks in an enterprise computing environment to include multiple servers, domain and sophisticated server applications. Prerequisite: OECS 232.

OECS 234. Transmission Control Protocol/Internet Protocol  

OECS 236. Structure Query Language (SQL)  
Installation, configuration, administration, and troubleshooting of SQL client/server database management system. Prerequisite: OECS 185, OECS 207, OECS 220 or OECS 261.
OECS 236. Network Management 1-3 cr.
     Administration and troubleshooting Systems Management Server (SMS).
     Prerequisite: OECS 234. May be repeated for a maximum of 6 credits.

OECS 240. COBOL Programming I 3 cr.
     Student will develop knowledge of American National Standard, structured
     COBOL and its use in business systems programming; debugging tech-
     niques. Prerequisites: C S 110, BCIS 110 or OECS 105.

OECS 241. COBOL Programming II 3 cr.
     Continuation of OECS 240. Prerequisite: OECS 240.

OECS 245. Game Programming I 3 cr.
     Development of programming skills for games and animation using current
     programming languages and tools. May be repeated for a maximum of 6
     credits. Prerequisite: consent of instructor.

OECS 246. Game Programming II 3 cr.
     Continuation of OECS 245. May be repeated for a maximum of 6 credits.
     Prerequisite: OECS 245.

OECS 250. Computer Systems Analysis I 3 cr.
     Analysis and design of business data processing and information systems.
     Study of the System Life Cycle. Prerequisite: OECS 125 or OECS 220.

OECS 251. Computer Systems Analysis II 3 cr.
     Continuation of OECS 250. Prerequisite: OECS 250.

OECS 252. Project Management 3 cr.
     Utilization of project management software to establish, control and
     coordinate timelines, budgets, and work teams. Introduction to methods
     and principles of oriented project management emphasizing team-based
     performance.

OECS 255. Special Topics 1-4 cr.
     Topics to be announced in the Schedule of Classes.

OECS 260. Hypertext Markup Language HTML 1-3 cr.
     Coverage of HTML as used for web-page development for Internet and
     Intranet. Text manipulation, graphics, hypertext links, lists, and tables. Pre-
     requisite: C S 110, BCIS 110 or OECS 105. May be repeated for a maximum
     of 3 credits.

OECS 261. Computer Network Design 4 cr.
     Design of modern computer networks utilizing seven layers of OSI ref-
     erence model, including data conversion, encapsulation, and various
     addressing techniques. Prerequisite: C S 110, BCIS 110 or OECS 105.

OECS 262. Configuration of Computer Networks 4 cr.
     Installation, configuration, and maintenance of network routers including
     flow control, editing features, IOS software, upgrades, backups, and proto-
     col addressing. Prerequisite: OECS 261.

OECS 263. Computer Network Performance 4 cr.
     Design, configuration, and optimization of computer network perfor-
     mance by utilizing bridges, routers, and switches to segment networks and reduce
     congestion. Prerequisite: OECS 262.

OECS 264. Wide Area Networks 4 cr.
     Installation, configuration, and monitoring of wide area network services
     including LAPB, frame relay, ISDN/LAPD, HDLC, PPP, and DDR. Prerequi-
     site: OECS 263.

OECS 265. Advanced Routing Configuration 4 cr.
     Advanced configuration and optimization of network routing protocols,
     including OSPF, ISRP, and BGP. Prerequisite: OECS 264.

OECS 266. Remote-Access Networks 4 cr.
     Advanced configuration of WANs, including product selection, assembling
     and cabling WAN components, PPP, PAP, CHAP, ISDN, DDR, PAT, frame
     relay, traffic shaping and optimization, and WAN troubleshooting. Prer-
     quisite: OECS 265.

OECS 267. Multilayer Switching 4 cr.
     Installation, configuration, management, and troubleshooting of network
     switches. Prerequisite: OECS 266.

OECS 268. Network Troubleshooting 4 cr.
     Application of network troubleshooting methods, including identification
     of troubleshooting targets; application of troubleshooting tools; documenta-
     tion of symptoms, actions, and results; tracking log-ins and connections;
     and diagnosing and correcting problems with TCP/IP, VLANs, frame relay,
     ISDN, and BRI. Prerequisite: OECS 267.

OECS 269. Network Security 3 cr.
     Fundamentals of design and implementation of network security solutions
     that will reduce the risk of system vulnerability. Prerequisite(s): OECS 207
     or OECS 261 or consent of instructor. Restricted to: Community College
     campuses only.

OECS 270. Topics in Data Processing I 1-4 cr.
     Topics of current interest in data processing or individual projects for the
     advanced student.

OECS 275. PC Maintenance and Selection II 1-3 cr.
     Continuation of OECS 185. Prerequisite: OECS 185. May be repeated for a
     maximum of 6 credits.

OECS 280. Desktop Publishing I 3 cr.
     Design and production of publication materials to fill the needs of business
     communities, using a microcomputer. Prerequisites: either BCIS 1006, C S
     110, OECS 105. May be repeated for a maximum of 6 credits. Same as BOT 
     280.

OECS 281. Desktop Publishing II 3 cr.
     Continuation of OECS 280. Refining skills using desktop publishing soft-
     ware. Prerequisite: OECS 280. May be repeated for a maximum of 6 credits.
     Same as BOT 281.

OECS 285. Multimedia Methods and Applications 1-3 cr.
     Design and authoring of multimedia presentations on the microcomputer to
     meet business needs. Prerequisites: CS 110G, BCIS 110, or OECS 105.

OECS 286. Computer Audio and Video Applications 3 cr.
     Theory of audio and video related to computers. Multimedia topics include
     sound editors, wave effects, synthesis, video editors, video morphing, analysis,
     and assembly. Prerequisite: OECS 207, OECS 265.

OECS 290. Computer Technology Capstone 1-3 cr.
     Finishes skills learned in the OECS program. Culminates in a review and
     practice of advanced software applications. Prerequisites: OECS 125,
     OECS 140, OECS 185 and OECS 220. Restricted to majors.

OECS 299. Independent Study 1-3 cr.
     Specific subjects to be determined based on need. OEDA Occupational
     Education, Dental Assisting The following courses are offered at the
     Community Colleges only. All OEDA course are restricted to majors.

OEDA- DENTAL ASSISTING

OEDA 101. Introduction to Dental Assisting 2 cr.
     An introduction to the duties and responsibilities of a dental assistant.
     Includes brief lessons on head and neck anatomy, chair side assisting, sterilization techniques, dental office emergencies, and dental office man-
     agement.

OEDA 111. Bio-Dental Science 4 cr. (3+3P)
     An introduction to biomedical and dental sciences with emphasis on head
     and neck anatomy and tooth morphology. Includes microbiology, general
     anatomy and physiology, histology and embryology of the oral cavity,
     pathology and pharmacology as they relate to dentistry. Prerequisites:
     ENG 111, OEDA 123, OEDA 125, OEDA 127, OEDA 129.

OEDA 113. Dental Assisting I 4 cr. (2-2P)
     Introduction to chair side assisting procedures, instrumentation, infection
     control, equipment safety and maintenance, dental office emergencies,
     and management of pain and anxieties. Prerequisites: ENG 111, OEDA 101
     or OEDA 105 or CS 110, PSY 201 or SOC 101, COMM 253 or COMM 265 or
     OHC 101, HNFS 163 or OHC 225. Corequisites: OEDA 111, OEDA 113, OEDA
     115, OEDA 117.

OEDA 115. Dental Radiology 3 cr. (2-3P)
     Radiation physics, hygiene, and safety theories. Emphasis on the funda-
     mentals of oral radiographic techniques and interpretation of radiographs.
     Includes exposure of intra-oral radiographs, quality assurance, radio-
     graphic interpretation, patient selection criteria, and other ancillary radio-
     graphic techniques. Prerequisites: ENG 111, OEDA 101 or OEDA 105 or CS
     110, PSY 201 or SOC 101, COMM 253 or COMM 265 or OHC 101, HNFS 163 or

OEDA 117. Dental Materials 3 cr. (2-3P)
     Composition, chemical and physical properties, manipulation and uses of
dental materials. Laboratory experiences include the application and

OEDA 121. Dental Assisting II 4 cr. (2-3P)
     Continuation of chair side assisting skills techniques with a major emphasis
     on four-handed dentistry performance procedures in the specialties of
dentistry and expanded chair side functions. Prerequisites: OEDA 111,
     OEDA 113, OEDA 115, OEDA 117. Corequisites: OEDA 123, OEDA 125, OEDA
     127, OEDA 129.
**OEDS 112. Abdominal Sonography I** 4 cr. (3+2P)
This course is the clinical component of the program that combines general practice and experiences in the work place. Seminar topics focus on the practicum experiences and critique of performance. Prerequisites: OEDA 111, OEDA 113, OEDA 115, and OEDA 117. Corequisites: OEDA 121, OEDA 125, OEDA 127, OEDA 129.

**OEDA 125. Professional Concepts** 3 cr.
Emphasis on the development of professionalism for the dental office. Includes oral communication, psychology, patient relations, problem-solving skills, stress management, and employability in addition to dental jurisprudence and ethics. Prerequisites: OEDA 111, OEDA 113, OEDA 115, and OEDA 117. Corequisites: OEDA 121, OEDA 123, OEDA 127, OEDA 129.

**OEDA 127. Dental Office Management** 2 cr.
This capstone course is an introduction to business office procedures, including telephone management, appointment control, accounts payable, completion of third party reimbursement forms, inventory control data entry for charges and payments, management recall, basic dental computer software and operating basic business equipment. Prerequisites: OEDA 111, OEDA 113, OEDA 115, and OEDA 117. Corequisites: OEDA 121, OEDA 123, OEDA 127, OEDA 129.

**OEDA 129. Preventive Dentistry** 2 cr.

**OEDA 131. Dental Office Management I** 3 cr.
Introduction to the field of dental office management with emphasis placed on professional verbal and written communication skills utilized within the dental office. Content includes dental terminology, charting, and back office experience as they relate to dental reception and management. Prerequisites: BOT 101, ENGL 111, OEC 105, or CS 101. Corequisites: OEDA 133 and OEDA 101.

**OEDA 133. Dental Office Management II** 3 cr.
Places emphasis on computer programs specifically designed for dental office management (Dentrix, Sof Dent, etc.) Expanded course content on oral communication and telephone skills, appointment scheduling, patient relations, stress management solutions, and comprehensive critical thinking/problem solving skills. Prerequisites: BOT 101, ENGL 111, OEC 105, or CS 101. Corequisites: OEDA 133 and OEDA 101.

**OEDA 155. Special Topics** 1-6 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

**OEDA 156. Independent Study** 1-6 cr.
Individual studies/research on topics related to dental assisting. Prerequisite: consent of instructor. May be repeated for a maximum of 8 credits.

### OEDS - DIAGNOSTICS SONOGRAPHY

**OEDS 101. Introduction to Sonography** 2 cr.
Introduction to the principles of ultrasound, terminology, scanning planes and applications of ultrasound. Includes observation in an ultrasound facility. Prerequisite: Consent of instructor. Corequisite: OEDS 112, 113. Restricted to OEDS majors. All OEDS courses are restricted to students who have been accepted into the Diagnostic Medical Sonography Program. Community Colleges only.

**OEDS 110. Ultrasound Physics** 3 cr. (2+2P)
Properties of sound and its use in diagnostic imaging, technical components involved in ultrasound imaging, how to use ultrasound equipment during lab sessions, the bioeffects of high-frequency sound, and artifacts created during imaging. Consent of instructor required. Corequisites: OEDS 115, OEDS 124. Restricted to OEDS majors. Community Colleges only.

**OEDS 112. Abdominal Sonography I** 4 cr. (3+2P)
Includes anatomy, physiology, and pathology of the abdominal organ systems; scanning techniques, ultrasound appearance of normal structures, and changes seen with pathologic conditions. Consent of instructor required. Corequisites: OEDS 101, OEDS 113, and OEDS 116. Restricted to: All Community Colleges. Restricted to OEDS majors.

**OEDS 113. GYN Sonography** 3 cr. (2+2P)

**OEDS 114. OB Sonography** 4 cr. (3+2P)
Includes review of human embryology, normal fetal anatomy, obstetrical scanning techniques, fetal biometry, fetal abnormalities, fetal Doppler, the role of ultrasound in genetic testing and chromosome abnormalities, fetal echocardiography, and congenital heart abnormalities. Consent of instructor required. Corequisite: OEDS 126. Restricted to majors. Community Colleges only.

**OEDS 115. Abdominal Sonography II** 3 cr.
Includes anatomy, physiology, and pathology of superficial structures, including female breast, thyroid, and neck structures, male pelvis, and musculoskeletal system; scanning techniques, ultrasound appearance of normal structures, and changes seen with pathologic conditions; abdominal Doppler principles of applications and organ transplant sonography. Consent of instructor required. Corequisites: OEDS 110, OEDS 124. Restricted to majors.

**OEDS 116. Introduction to Vascular Technology** 3 cr. (2+2P)
Basic ultrasound physics and principles, peripheral vascular anatomy, hemodynamics, Doppler evaluation, peripheral vascular scanning techniques, physiologic testing and the more common pathologies of the carotid arteries, and the peripheral vascular system. Consent of instructor required. Corequisites: OEDS 101, OEDS 112, OEDS 113. Restricted to majors.

**OEDS 117. Vascular Sonography** 2 cr. (1+2P)
In-depth knowledge of the vascular anatomy; hemodynamics; pathologies; imaging & Doppler techniques of the extracranial & intercranial arterial systems and peripheral arterial systems; and skills for basic interpretation and preliminary reporting. Consent of instructor required. Corequisite: OEDS 122. Restricted to majors.

**OEDS 118. Neurosonography** 2 cr.
Covers anatomy of brain and spinal cord; scanning techniques and the appearance of normal structures; pathologies of the central nervous system, and intraoperative ultrasound. Consent of instructor required. Corequisite: OEDS 120. Restricted to majors. Community Colleges only.

**OEDS 120. Clinical Internship I** 4 cr. (2+2P)
Provides the practical, hands-on experience required for both the national registry exam and for quality patient care. Students will spend 32 hours per week at their assigned clinical site performing ultrasound exams under the supervision of the clinical staff. Students return to campus periodically to participate in advanced seminars. Six-week course. Consent of instructor required. Corequisite: OEDS 118. Restricted to majors. Community Colleges only.

**OEDS 122. Clinical Internship II** 4 cr. (2+2P)
Provides the practical, hands-on experience required for both the national registry exam and for quality patient care. Students will spend 32 hours per week at their assigned clinical site performing ultrasound exams under the supervision of the clinical staff. Students return to campus periodically to participate in advanced seminars. Six-week course. Restricted to majors. Community Colleges only. Prerequisite(s): OEDS 120 or consent of instructor. Restricted to: Dona Ana campus, Carlsbad campus.

**OEDS 124. Clinical Internship III** 9 cr. (2+2P)
Provides the practical, hands-on experience required for both the national registry exam and for quality patient care. Students will spend 32 hours per week at their assigned clinical site performing ultrasound exams under the supervision of the clinical staff. Students return to campus periodically to participate in advanced seminars. Prerequisite(s): OEDS 122 or Consent of Instructor. Corequisite(s): OEDS 110, OEDS 115. Restricted to: Community College campuses only. Restricted to OEDS majors.

**OEDS 126. Clinical Internship IV** 9 cr. (2+2P)
Provides the practical, hands-on experience required both for national certification and for quality patient care. Students will spend 32 hours per week at their assigned clinical site performing ultrasound exams under the supervision of the clinical staff. Students will learn more difficult exams and will work on case reports and course review materials. Prerequisite(s): OEDS 124 or consent of instructor. Restricted to: Dona Ana campus, Carlsbad campus. Restricted to OEDS majors.

**OEDA 155. Special Topics** 1-6 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits. Restricted to majors. Community Colleges only.

**OEDA 200. Independent Study** 1-6 cr.
Individual study/research on topics related to diagnostic medical sonography. Prerequisite: OEDA Test Score of 1 and consent of instructor. Restricted to majors. Community Colleges only.
OEEM - PARAMEDIC

OEEM 101. CPR for the Health Care Professional 1 cr.
Students learn identification and response to airway and circulation emergencies, including use of a SAED and accessing the EMS system. This course is taught using the American Heart Association guidelines for course completion. Required: grade of C or better.

OEEM 102. CPR for the Health Care Professional - Renewal Care 1 cr.
A comprehensive review of the CPR course for those who are already certified at the professional level. Includes the American Heart Association requirements for CPR course completion renewal. Prerequisite: OEEM 101 or consent of instructor. May be repeated for unlimited credit. Required: grade of C or better.

OEEM 105. Vehicle Extrication Course 2 cr.
Assessment and psychomotor skills required to perform motor vehicle extrication at the scene of an accident. Taught using the NM Fire Academy guidelines for motor vehicle extrication course completion. Graded S/U.

OEEM 106. Advanced First Aid 2 cr.
Theory and advanced first aid skills taught emphasizing recognition and providing care for injury or sudden illness until professional medical help arrives. Course meets and/or exceeds the Red Cross or National Safety Council standards. Corequisite: OEEM 101 or consent of instructor.

OEEM 107. First Responder Refresher 1 cr. (1+1P)
A comprehensive review of prehospital emergency medicine for the certified First Responder. To include new material relevant for renewal of the New Mexico First Responder Certification. Prerequisite: consent of instructor. Graded S/U.

OEEM 115. First Responder Prehospital Professional 3 cr. (2+3P)
Provides training in prehospital medical and traumatic emergencies. Prerequisite: consent of instructor. Corequisite: OEEM 101. Requires a C or better to pass. Restricted to majors.

OEEM 116. Emergency Medical Technician Bridge 5 cr. (3+6P)
Enhanced skill instruction and didactic integration designed to meet the requirements for an EMT-Basic certificate. Prerequisites: OEEM 101 and OEEM 115, and consent of instructor. Corequisite: OEEM 121. Requires a C or better to pass. Restricted to majors.

OEEM 117. Emergency Medical Technician-Wilderness First Responder 4 cr.
A comprehensive study of pre-hospital medical and traumatic emergencies in the wilderness setting. Prerequisite: OEEM 101.

OEEM 120. Emergency Medical Technician Basic 6 cr.
Covers EMT-Basic skills instruction to include care of soft tissue and muscular/skeletal injuries, circulatory, nervous, general medical and respiratory systems emergencies. Corequisites: OEEM 101, OEEM 120L, and OEEM 121, or consent of instructor. Requires a C or better to pass.

OEEM 120 L. Emergency Medical Technician Basic Lab 2 cr. (6P)
EMT-Basic skills development with emphasis on assessment, skills competency and team-work in patient care in the prehospital setting. Corequisites: OEEM 101 or OEEM 120, and OEEM 121, or consent of instructor. Requires a C or better to pass.

OEEM 121. Emergency Medical Technician Basic Field/Clinical 1 cr. (3P)
Covers the patient care experience provided through assigned shifts in the hospital and/or ambulance setting. Corequisites: OEEM 101, OEEM 120, and OEEM 120L, or consent of instructor. Requires a C or better to pass.

OEEM 122. Emergency Medical Technician Basic Advanced Field/Internship 2 cr. (6P)
Expanded patient care experience provided through practical scenarios, assigned shifts in the hospital and/or ambulance setting. Prerequisite: current EMT-Basic license and consent of instructor. Requires a C or better to pass.

OEEM 123. RN to EMT - Transition Course 3 cr. (2+3P)
Enhanced skill instruction and didactic integration designed to meet the requirements for an EMT Basic certificate. Prerequisites: OEEM 101, licensure at the RN level and consent of instructor. Requires a C or better to pass. Dona Ana campus only.

OEEM 127. Emergency Medical Technician Basic Refresher 2 cr.
Comprehensive review of prehospital emergency medicine for the EMT-Basic. New material relevant to recertification of the New Mexico EMT-Basic licensure included. S/U only.

OEEM 150. Emergency Medical Technician Intermediate 5 cr.
Theory of the roles, responsibilities and scope of practice of the EMT-Intermediate. Assessment and management of respiratory, cardiac, trauma, environmental, behavior, reproduction, and childhood emergencies. Prerequisites: current EMT-Basic license, pretest and consent of instructor. Corequisites: OEEM 150L and OEEM 151. Requires a C or better to pass.

OEEM 151. Emergency Medical Technician Intermediate Field/Clinical 2 cr. (6P)
Patient care experience provided through assigned shifts in the hospital and/or ambulance setting. Prerequisite: consent of instructor. Corequisites: OEEM 150 and OEEM 150L. Requires a C or better to pass.

OEEM 152. Emergency Medical Technician-Intermediate Advanced Field/Internship 2 cr. (6P)
Expanded patient care experience provided through practical scenarios, assigned shifts in the hospital and/or ambulance setting. Prerequisites: current EMT-I license and consent of instructor. Requires a C or better to pass.

OEEM 155. Special Topics 1-6 cr.
Specific topics to be listed in Schedule of Classes. May be repeated for a maximum of 10 credits.


OEEM 158. Emergency Medical Technician-Combination Refresher 2 cr.
A comprehensive review of prehospital medicine for the prehospital care provider from the first responder level through the EMT Intermediate. New material relevant to recertification of the New Mexico First Responder, EMT Basic and EMT Intermediate licensure included. Graded S/U.

OEEM 160. Basic Anatomy & Physiology for the EMS Provider 4 cr.
An introduction to the essential concepts, applications, and terminology of anatomy and physiology for the EMS provider with specific emphasis on applications within EMS.

OEEM 177. Emergency Medical Services Instructor 4 cr.
Theory of student learning, methodology, instructional components, evaluation, and course coordination for the EMS profession. Prerequisite: consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 200. Independent Study 1-3 cr.
Individual studies with prior approval of department head. Prerequisite: OEEM 155 or NM First Responder Certification and consent of instructor. May be repeated for a maximum 10 credits. Requires a C or better to pass.

OEEM 202. EMT-Paramedic I Respiratory Emergencies 3 cr. (2-3P)
Review anatomy, physiology and pathophysiology of the respiratory system. Assessment and management of respiratory emergencies and acute respiratory failure in the prehospital setting. Prerequisites: consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 203. EMT-Paramedic II Trauma Emergencies 3 cr. (2-3P)
Study of the effects of trauma on the human body. Assessment and management of trauma patients and scenes, including vehicular extrication. Prerequisites: OEEM 202 and consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 204. EMT-Paramedic: Reproductive and Childhood Emergencies 2 cr. (2-1P)
Covers anatomy, physiology, disease processes, assessment and management of male and female reproductive system emergencies, childhood emergencies and growth and development. Prerequisite: consent of instructor. Restricted to majors. C or better to pass required.

OEEM 210. Cardiac Rhythm Interpretation 3 cr. (2-3P)
Cardiac conduction system: electrophysiology, electrocardiogram, monitor, atrial, sinus, ventricular and junctional dysrhythmias, multiple lead EKG and 12 lead EKG interpretation. Prerequisites: OEEM 203, OEEM 230 and OEEM 240. Requires a C or better to pass.

OEEM 212. EMT-Paramedic Cardiovascular Emergencies 3 cr. (2-3P)
Review anatomy, physiology, and pathophysiology of cardiovascular system. Assessment and management of cardiovascular emergencies in the prehospital setting. Prerequisites: second semester standing in EMS program and consent of instructor. Requires a C or better to pass.

OEEM 213. EMT-Paramedic: Medical Emergencies I 3 cr. (2-3P)
Study of the disease process; assessment and management of neurological, endocrine, gastrointestinal, renal emergencies and infectious disease. Prerequisites: OEEM 212, OEEM 230 and OEEM 240. Requires a C or better to pass.

OEEM 214. EMT—Paramedic: Medical Environmental Emergencies II 3 cr. (2-3P)
Study of disease process, assessment, and management of poisoning, drug and alcohol abuse, environmental, behavioral and geriatric emergencies. Prerequisites: OEEM 213, OEEM 230 and OEEM 240. Requires a C or better to pass.

OEEM 218. Pediatric Advance Life Support for the Healthcare Professional 1 cr.
Identify and respond to life threatening pediatric emergencies. Taught using the American Heart Association guidelines for course completion. Prerequisite: OEEM 101. Graded S/U.

OEEM 230. EMT-Paramedic Clinical Experience I 3 cr. (9P) Assigned clinical experiences in patient assessment and specific management techniques. Successful completion includes minimum required hours and completion of course objectives. Prerequisite: consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 231. EMT-Paramedic Clinical Experience II 3 cr. (9P) Assigned clinical experiences in patient assessment and specific management techniques. Successful completion includes minimum required hours and completion of course objectives. Prerequisites: OEEM 230 and consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 225. EMT-Paramedic Clinical Experience III 1-3 cr. Continuation of OEEM 231. Prerequisites: second semester standing in EMS program, OEEM 231, and consent of instructor. May be repeated for a maximum of 3 credits. Restricted to majors. Requires a C or better to pass.

OEEM 240. EMT-Paramedic Field Experience I 3 cr. (9P) Advanced prehospital skills and knowledge. Successful completion of at least the minimum required hours and course objectives. Prerequisite: consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 241. EMT-Paramedic Field Internship I 3 cr. (9P) Continued focus on advanced prehospital skills and knowledge, with increasing responsibility for patient care. Successful completion includes meeting at least the minimum required hours and course objectives. Prerequisites: OEEM 240 and consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 242. EMT-Paramedic Field Internship II 3 cr. (9P) Emphasis on total patient care responsibility and team leadership skills. Successful completion includes meeting the minimum hours required and course objectives. Prerequisites: second semester completion in EMS program, OEEM 241, and consent of instructor. Restricted to majors. Requires a C or better to pass.

OEEM 243. EMT-Paramedic Preparation for Practice 2 cr. Comprehensive final program testing to prepare for licensing examination. Prerequisites: OEEM 216 and OEEM 242. Restricted to majors. Requires a C or better to pass.

OEEM 245. EMT-Paramedic Field Internship III 1-3 cr. Continuation of OEEM 242. Prerequisites: OEEM 242 and consent of instructor. Restricted to majors. Requires a C or better to pass.


OEEM 250. RN to EMT - Paramedic Transition Course 6 cr. Enhanced skill instruction and didactic integration designed to meet the requirements for an EMT Paramedic certificate. Prerequisites: current NM EMT Basic License, RN licensure, ACLS, PALS certification and 2 years experience in the critical care setting or equivalent. Corequisites: OEEM 250 L and OEEM 251. C or better required to pass.

OEEM 250 L. RN to EMT Paramedic Transition Lab 3 cr. (9P) Enhanced skill instruction and didactic integration designed to meet the requirements for an EMT Paramedic certificate. Prerequisites: current NM EMT Basic License, RN licensure, ACLS, PALS certification. Corequisites: OEEM 250 and OEEM 251. C or better required to pass.

OEEM 251. RN to Paramedic Field/Clinical 3 cr. (9P) Advanced pre-hospital skills and assigned clinical experiences in patient assessment and specific management technique. Minimum hours and completion of course objectives required for successful completion. Prerequisites: current NM EMT Basic License, RN licensure, ACLS, PALS certification. Corequisites: OEEM 250 and OEEM 250L. C or better required to pass.

OEEM 252. RN to Paramedic Internship 3 cr. (9P) Continued focus on advance pre-hospital skills and knowledge with increasing responsibility for patient care. Minimum hours and completion of course objective required for successful completion. Prerequisites: OEEM 250, OEEM 250L and OEEM 251. Requires a C or better to pass.

OEEM 259. Independent Study 1-3 cr. Individual studies directed by a consenting faculty member and prior approval of the department head. Prerequisite: OEEM 150 and consent of instructor. May be repeated for a maximum of 6 credits. Requires a C or better to pass.

OEES- ELECTRONIC SERVICE

OEES 105. Basic Electricity and Electronics 3 cr. (2+2P) Fundamentals of electricity and electronics, basic circuit devices, meters, transistors, integrated circuits and other solid state devices, computers, fiber optics, and industrial application topics. Prerequisite: either CCDM 103N or CCDM 104N or consent of instructor.

OEES 110. Electronics I 4 cr. (3+3P) Fundamentals of electronics including: components, schematics, Ohm’s law, Thévenin’s and Norton’s theorems, and series/parallel circuits incorporating passive, active and magnetic elements. Introduction to AC circuits. Corequisite: OEES 120.

OEES 120. Mathematics for Electronics 4 cr. Includes fundamental mathematics, algebra, sine, cosine, and other elementary functions as they specifically apply to the operation, manipulation, and evaluation of direct current (DC) and alternating current (AC) circuits. Prerequisite: CCDM 114N or consent of instructor.

OEES 135. Electronics II 4 cr. (3+3P) Analysis of AC circuits, filters, and resonance. Introduction to solid state fundamentals including diodes and rectifier circuits, voltage regulators, various transistors and transistor characteristics, amplification and amplifiers, photoelectric effects, gates and timing circuits. Prerequisites: OEES 110 and OEES 120.

OEES 155. Electronics CAD and PCB Design 3 cr. (2+2P) Introduction to and the use of commercially available CAD software covering schematic representation of electronic components and circuits. Printed circuit board layout techniques including proper schematic capture, netlist generation, design rule checking and manual routed. Prerequisite: OEES 110 and consent of instructor.

OEES 180. Digital Electronics I 4 cr. (3+3P) Number systems, codes, Boolean algebra, logic gates, Karnaugh maps, combination circuits, flip-flops, and digital troubleshooting techniques. Prerequisite: OEES 110 or consent of instructor.


OEES 201. Television Theory 3 cr. (2+3P) Origin and development of color television, video-audio characteristics, digital television, VITS and VIRS channels, broadcast antennas, and transmission lines.

OEES 205. Semiconductor Devices 4 cr. (3+3P) Analysis and trouble shooting of linear electronic circuits including amplifiers, op-amps, power supplies, and oscillators. Prerequisite(s): OEES 110 & OEES 135 or Consent of instructor. Restricted to: Community Colleges only.


OEES 220. Electronic Communication Systems 4 cr. (3+2P) Principles and applications of circuits and devices used in the transmission, reception, and processing of RF, microwave, digital and telecommunications systems. Prerequisite: consent of instructor. Corequisite: OEES 205.

OEES 221. Cooperative Experience I 1-6 cr. Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U. Prerequisite: consent of instructor.

OEES 222. Cooperative Experience II 1-6 cr. Continuation of OEES 221. Maximum of 6 credits. Graded S/U. Prerequisite: consent of instructor.

OEES 225. Computer Applications for Technicians 2 cr. (2+2P) An overview of computer hardware, software applications, operating systems, high level programming languages and networking systems.

OEES 230. Microprocessor Applications II 4 cr. (3+2P) Advanced microprocessor interfacing techniques. Topics in A/D and D/A conversion, I/O port address decoding, direct memory accessing, and peripheral device interfacing applications. Prerequisite: OEES 215.

OEES 235. Digital Electronics II 3 cr. (2+3P) Sequential logic circuits, latches, counters, shift-registers, fault analysis and troubleshooting of digital IC’s, multiplexers, timers, encoders/decoders, arithmetic circuits, pulse shaping, and memory devices. Prerequisite: OEES 160.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<td>Electrical Blueprint Reading</td>
<td>4 cr.</td>
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<tr>
<td>OEET 102</td>
<td>Electrical Measuring Instruments</td>
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<tr>
<td>OEET 103</td>
<td>Electrical Schematics</td>
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<tr>
<td>OEET 110</td>
<td>Basic Electricity and Electronics</td>
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<tr>
<td>OEET 111</td>
<td>Wiring Methods and Materials</td>
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<tr>
<td>OEET 118</td>
<td>Math for Electricians</td>
<td>3 cr.</td>
<td>CCDM 103N. Same as OEBT 118, DFRT 118, OEPB 118.</td>
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<td>OEET 120</td>
<td>Basic Motor Controls</td>
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<tr>
<td>OEET 130</td>
<td>Introduction to Electrical Power Systems</td>
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<tr>
<td>OEET 131</td>
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<td>OEET 140</td>
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<td>OEES 250</td>
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<td>OEES 255</td>
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<td>OEES 260</td>
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<td>Special Topics</td>
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<td>OEES 270</td>
<td>Biomedical Equipment Instrumentation</td>
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<td>OEES 280</td>
<td>Digital Electronics</td>
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<td>OEES 295</td>
<td>Professional Development/Leadership</td>
<td>1 cr.</td>
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<td>OEES 295</td>
<td>Structured Cabling Systems II</td>
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<td>OEES 300</td>
<td>National Electric Code</td>
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<td>OEES 301</td>
<td>Intermediate Electricity</td>
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<td>OEES 302</td>
<td>Cooperative Experience I</td>
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<td>OEES 303</td>
<td>Cooperative Experience II</td>
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<td>OEES 304</td>
<td>Digital Electronics</td>
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<td>OEES 305</td>
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<td>OEES 307</td>
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<td>OEES 311</td>
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<td>OEES 312</td>
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<td>OEES 314</td>
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<td>OEES 315</td>
<td>Electrical Apprenticeship XIV</td>
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<td>OEES 135 or consent of instructor.</td>
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<tr>
<td>OEES 316</td>
<td>Electrical Apprenticeship XV</td>
<td>6 cr.</td>
<td>OEES 135 or consent of instructor.</td>
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<td>OEES 317</td>
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<td>OEES 318</td>
<td>Electrical Apprenticeship XVII</td>
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<td>OEES 135 or consent of instructor.</td>
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<tr>
<td>OEES 319</td>
<td>Electrical Apprenticeship XVIII</td>
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<td>OEES 135 or consent of instructor.</td>
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<td>OEES 320</td>
<td>Microprocessor Circuits</td>
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<tr>
<td>OEES 321</td>
<td>Computer Lab</td>
<td>4 cr.</td>
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</tbody>
</table>

OEES 105, OEPB 102, OEAR 102, OEET 118, DRFT 118, OEPB 118.
OEFS 101. Basic Firefighter 8 cr.
Basic concepts and methodologies of fire suppression. Meets or exceeds NFPA standards. Community Colleges Only.

OEFS 102. Fire Fighter IB 4 cr. (3-3P)
Continuation of basic concepts and methodologies of fire suppression. Meets or exceeds NFPA standards. Prerequisite: OEFS 101.

OEFS 103. Physical Awareness 1 cr. (2P)
Physical fitness awareness for the physical requirements of fire fighting. Graded S/U.

OEFS 104. Firefighter II 8 cr. (6-6P)
Advances concepts and methodologies of fire suppression. Meets and exceeds NFPA standards. Prerequisites: OEFS 101, OEFS 114, OEFS 115, OEFS 126, OEFS 202, OEFS 216, OEFS 223, OEFS 224, OEFS 225, OEFS 251, OEFS 252, OEM 115 or OEM 120/121, Basic Firefighter Certification and approval of instructor.

OEFS 112. Principles of Emergency Services 3 cr.
Provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/services; meets or exceeds NFPA standards. Community Colleges only.

OEFS 114. Fire Behavior and Combustion 3 cr.
Explores the theories and fundamentals of how and why fires start, spread and are controlled. Meets or exceeds NFPA standards. Community Colleges Only.

Training for personnel expected to respond to and handle defensively, emergencies involving hazardous materials in order to protect people, property and the environment from as much exposure as possible. Preparation for Awareness Level I and Operations Level II. Meets or exceeds NFPA 471, 472, 473, OSHA 1910.120 part Q, HMER plan.

OEFS 120. Fire Protection Hydraulics and Water Supply 3 cr.
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. Meets or exceeds NFPA standards. Prerequisite: CCDM 114 or higher.

OEFS 126. Fire Prevention 3 cr.
Provides fundamental information regarding the history and philosophy of fire prevention; organization and operation of fire prevention bureau; use of fire codes, identifications and correction of fire hazards; and the relationships of fire prevention with built-in fire protection systems, fire investigations, and fire and life safety education. Meets or exceeds NFPA 1031.

OEFS 127. Rescue Operations 3 cr.
A course designed to acquaint the student with the equipment and procedures employed in search and rescue operations to safely remove persons from burning structures, automobile accidents, and natural disasters. Prerequisite: consent of instructor. Restricted to majors.

OEFS 128. Apparatus and Equipment 3 cr.
Fire apparatus specifications design, construction features, performance factors, and field hydraulics as related to operation and maintenance. Prerequisite: MATH 115 or consent of instructor.

OEFS 129. Foam Extinguishing Procedures 3 cr.
Typical considerations and problems encountered when applying foam to various types of fires and hazardous materials. Types of fire suppression foams and methods of application will be introduced. Prerequisite: consent of instructor. Restricted to majors.

OEFS 130. Firefighter Safety 3 cr.
Develops a working knowledge of fire scene safety and the responsibilities as a firefighter, as required by NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, and adopted by the authority having jurisdiction. Prerequisite: consent of instructor. Restricted to majors.

OEFS 140. Wildland Fire Prevention 1 cr.
Overview course designed for anyone having fire prevention responsibilities. Emphasis on how fire prevention is affected when fire management and planning changes increase the application to the land. Prepares students to identify risks and hazards that make structures more prone to loss through wildfire, to make recommendations for corrective action, and to prepare inspection reports. Guidelines on how to obtain and use information to determine the probable cause of a wildland fire, and to present vital information to a wildland fire investigator. Contains the essentials of P-101, P-110, and P-130; all Wildland Fire Prevention-NWCG standards.

OEFS 142. Fire Fighter Training S-130 3 cr.
Wildland Fire Training FFT2: A field course providing entry-level fire fighting skills through 13 instructional units of study. May also serve as refresher training for returning fire fighters and a means of testing personnel with undocumented prior experience. Instructed in accordance to NWCG standards.

OEFS 200. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. Course may be repeated for credit as topics change.

OEFS 201. Independent Study 1-3 cr.
Research on an approved topic to meet graduation requirements. Meets or exceeds NFPA standards. Prerequisite: consent of instructor. May be repeated for total of 9 credits.

OEFS 202. Wildland Fire Control 1-3 cr.
Focuses on factors affecting wildland fire control and prevention, fire behavior, control techniques, command structure and other operations including Standards for Survival I-100, S-130 and S-190 Meets or exceeds NWCG Training Curriculum and NFPA 1051 standards. Community Colleges Only.

OEFS 203. Fire Administration 3 cr.
Introduction to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on the fire service leadership from the perspective of the company officer. Meets or exceeds NFPA 1021, 1521, 1710.

OEFS 204. Managing a Volunteer Fire Department 1 cr.
Designed for those individuals having responsibilities of managing various facets of volunteer fire departments. Basic management techniques applicable to the administration are reviewed. Principles of planning, organizing, managing and controlling functions, problem solving and motivating volunteers to achieve organization objectives. Prerequisite: consent of instructor. Restricted to majors.

OEFS 205. Fire Chemistry 3 cr.
Theories of combustion and extinguishment, including the analysis of flammable materials, the nature of extinguishing agents, and the properties of matter affecting fire behavior. Prerequisite: CHEM 110G.

OEFS 206. Initial Attack Commander S-200 3 cr.
Designed to meet the training needs of the ICT4. Presented in a lecture/discussion format and supplemented with group exercises. Six instructional units are covered: readiness and mobilization, size-up, planning, ordering, deployment and containment, administrative requirements and post-fire evaluations. Incident Command System S-300 will be integrated as part of the curriculum. Instructed in accordance to NWCG standards. Prerequisite: Single Resource Boss and successful completion of Fire in the Urban Interface S-215.

Studies the components of building construction that relate to fire and life safety with a focus on fire fighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations and operating at emergencies. Meets or exceeds NFPA standards.

Knowledge and skills about hazardous materials mitigation needed to certify as a Hazardous Materials Technician Level III. Meets or exceeds NFPA 471, 472, 473 standards, and OSHA 1910.120 part Q, and New Mexico HMER plan. Prerequisite: OEFS 115.

OEFS 215. Hazardous Materials Laboratory 1 cr.

OEFS 216. Chemistry of Hazardous Materials 3 cr.
Educates the student on genetic make-up of chemicals to assist with the confrontation of unplanned hazardous materials releases, and how to eliminate and avert catastrophes. Meets or exceeds NFPA standards.

Provides training for initial attack incident commanders and company officers confronting wildfire presenting a threat to life and property. Instructional units include: size-up, initial strategy and action plan, structure triage, tactics, action plan, assessment, public relations and follow up, and safety. Presented in a classroom environment. Instructed in accordance to NWCG standards. Prerequisite: qualified as any Single Resource Boss or OEFS 231.
OEFS 219. Field Observer/Display Processor S-244 3 cr.
Provides skills needed to perform as field observer on a wildfire and/or as a prescribed fire monitor. Topics covered are mapping from aircraft; observing fire conditions; reporting hazardous situations; maintaining field maps; calculating, measuring, identifying, and estimating fire behavior; safety in field observations; transmitting field data and collecting and analyzing data. Display processor provides student with skills necessary to perform as a display processor on a wildfire fire. Covers the information needing to be displayed, maps that need to be produced, and the techniques and symbols used in producing maps. Instructed in accordance to NWCG standards. Prerequisites: qualified as single resource boss or OEFS 231 or FFT2.

OEFS 220. Cooperative Experience I 1-3 cr.
Supervised cooperative work program. Student is employed in an approved occupation and rated by the employer and instructor. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. Graded S/U.

OEFS 221. Cooperative Experience II 3 cr.
Apply advanced firefighting knowledge and skills while working with fire protection agencies. Meets or exceeds NFPA standards. Prerequisites: OEFS 220. Graded S/U.

OEFS 222. Aircraft Fire Control 3 cr.
Provides a broad understanding of airport operations required to effectively perform aircraft firefighting and other emergencies. Meets or exceeds NFPA 402, 403, 405 standards.

OEFS 223. Fire Investigations 3 cr.
Provides the student with theory on the principles of cause and origin determination, preservation of evidence, interview techniques, and special emphasis on the firefighter’s role at the fire scene. Meets or exceeds NFPA 921, NFPA 1033 standards. Community Colleges Only.

OEFS 224. Firefighting Tactics and Strategy 3 cr.
Efficient and effective utilization of manpower, equipment, and apparatus. Preplanning, ground organization problem solving, ground decision and attack tactics, and strategy as related to structural firefighting. Meets or exceeds NFPA 1710. Community Colleges Only.

OEFS 225. Fire Protection Systems 3 cr.
Features design and operation of fire detection and alarm systems, including heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, specialized extinguishing systems and portable fire extinguishers. Meets or exceeds NFPA standards. Community Colleges Only.

OEFS 226. Fire Investigations II 3 cr. (2+1P)
Advanced continuation of cause and origin determination with technical emphasis on investigative techniques, fire behavior including fire modeling. Meets and exceeds NFPA standards. Prerequisite: OEFS 223.

OEFS 227. Fire Operations in the Urban Interface 3 cr.
Training for initial attack commanders and company officers confronting wildland fire that threatens life, property and improvements. Strategy, tactics, evacuations, and cooperation with law enforcement agencies included. Completion of class qualifies for NWCG 205 certification.

OEFS 230. Fire Service Instructor 3 cr.
Provides the instructor candidate with methods and techniques of instruction including oral communications, preparing lesson plans, writing performance objectives, use of audio and other training aids, and the selection, evaluation and preparation of performance tests. Meets and exceeds NFPA 1041 Level I standards.

A classroom skill course to produce student proficiency in the performance of all duties associated with the single resource crew boss, from initial dispatch through return to home unit. Instructional topics include preparation and mobilization, assignment preparation, tactics and safety, off-line duties, and demobilization/post-incident activities. Instructed in accordance to NWCG standards. Prerequisites: Advanced Fire Fighter FFT1 and completion of Wildland Fire Behavior S-290.

OEFS 232. Firefighter Internship 3 cr.
Application of knowledge, skills and abilities in a fire service department, as a firefighter intern and integrated member of a fire affiliated agency. Prerequisites: OEFS 101, OEFS 102, OEFS 115, OEFS 202 and EMT-B and consent of instructor. Restricted to majors.

OEFS 233. Practical Approach to Terrorism 3 cr.
Gives responder an overall safety approach in recognizing and responding to incidents involving terrorism. Presents an overview in types of harm, explosive weapons, chemical weapons, biological weapons and radiological weapons.

OEFS 245. Task Force/Strike Team Leader S-330 3 cr.
Designed to prepare the student to perform in the role of task force leader or any strike team leader. Examples and exercises in this course package are specific to wildland fire suppression. Instructed in accordance to NWCG standards. Prerequisites: Qualified as Single Resource Boss and completion of Wildland Fire Behavior Calculations S-300.

OEFS 251. Terrorism Command System-NIMS 700 3 cr.
NIMS provides a consistent nationwide Homeland Security template to enable all government, private-sector, and nongovernmental organizations to work together during domestic incidents, Community Colleges Only.

OEFS 255. Division/Group Supervisor S-338 2 cr.
Prepares student to perform the role of division/group supervisor. Provides instruction in support of the specific tasks of the division/group supervisor. Units of instruction include division/group management, organizational interaction, and division operations. Prerequisites: Qualified as Task force leader or Incident Commander Type 3.

OEFS 275. Basic Air Operations S-270 1 cr.
Covers the uses of aircraft and the safe and proper conduct around aircraft. Other topics covered are management policy, regulations, and procedures governing aircraft operations; tactical and logistical uses of aircraft; and specifications for helicopter landing areas. Instructed in accordance to NWCG standards. Prerequisite: Qualified as Advanced Fire Fighter FFT 1.

OEFS 290. Intermediate Wildland Fire Behavior S-290 3 cr.
A classroom-based skills course designed to prepare the prospective supervisor to undertake safe and effective fire management operations. It is the second course in a series that collectively serves to develop fire behavior prediction knowledge and skills. The 12 units of this course go beyond introduction to Fire Behavior S-190, in providing more detailed treatment of fuels, weather and topography, and a stronger basis for analyzing variables and their interactive effects on fire behavior. Instructed in accordance to NWCG standards. Prerequisite: Qualified as Advanced Fire Fighter FFT1.

OEGR. DIGITAL GRAPHICS

OEGR 105. Introduction to Visual Communications 3 cr.
Introduction to the various media technologies. Includes a basic survey of current digital graphic software applications. Same as CMT 100.

OEGR 108. Introduction to Media Technologies 3 cr.
Introduction to the various media technologies. Includes a basic survey of current digital graphic software applications. Same as CMT 108.

OEGR 110. Introduction to Web Page Development 1 cr.
Application of basic techniques in developing simple Web sites for personal or small business use. Prerequisite: basic computer skills.

OEGR 140. Page Layout for Business Publications I 3 cr. (2+2P)
Creation of publications and presentation materials for businesses using page layout software. Prerequisite: basic computer skills. May be repeated for a maximum of 6 credits.

OEGR 155. Selected Topics 1-4 cr.
Specific titles to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits. Same as CMT 155.

OEGR 160. Image Processing I 3 cr. (2+2P)
Covers techniques in using a raster or bitmap program for digital graphics for business applications such as advertisements, publications, multimedia presentations, and the Web. Prerequisite: basic computer skills. May be repeated for a maximum of 6 credits.

OEGR 165. Digital Imaging 3 cr.
Image capturing and editing using digital cameras for applications such as print, multimedia, video, animation, and Web. Prerequisite: OEGR 160 or consent of instructor.

OEGR 170. Computer Illustration 3 cr. (2+2P)
Preparation of digital graphics with a vector or draw program for use in business applications such as advertisements, publications, multimedia presentations, and the Web. Prerequisite: basic computer skills. May be repeated for a maximum of 6 credits.

OEGR 180. Principles of Digital Graphics I 3 cr. (2+2P)
Design principles, type, color, and printing methods and their application to the needs of business. Prerequisite: OEGR 170.

OEGR 190. Digital Video Production I 3 cr.
Techniques and technology of digital video production hardware, software, artistic techniques, and production applications. Prerequisite: basic computer skills. May be repeated for a maximum of 6 credits.
Advanced techniques of the tools and application of professional film making. Prerequisite: OEGR 190. May be repeated for a maximum of 6 credits.

Reinforcement of technical and designing skills through the integration of various graphics programs. Development of digital graphics portfolio, both traditional and electronic. Prerequisites: OEGR 180, OEGR 170, and OEGR 180, or consent of instructor. May be repeated for a maximum of 6 credits.

Continued refinement of design and layout skills using advanced features of layout software. Prerequisite: OEGR 140 or OEGR 240 or consent of instructor. May be repeated for a maximum of 6 credits.

OEGR 198. Independent Study 1-3 cr.
Individual studies directed by consenting faculty with prior approval of department head. Prerequisites: minimum 3.0 GPA and sophomore standing. May be repeated for a maximum of 6 credits. Same as CMT 298.

OEGS- GEOGRAPHIC INFORMATION SYSTEMS

OEGS 181. Introduction to Geographic Information Systems 4 cr. (3+3P)
Introduction to GIS using ArcView software. Applications of GIS to environmental assessment, analysis of natural hazards, site analysis, resource management, land use planning, and other practical applications. Prerequisite: C S 110 or concurrent enrollment.

OEGS 187. Geographic Information Systems Applications 4 cr. (3+3P)
Continuation of OEGS 181, focusing on applications. Prerequisites: OEGS 181.

OEGS 211. Advanced Geographic Information Systems Applications 3 cr. (2+3P)
Continuation of OEGS 187, focusing on advanced applications using ArcInfo software. Prerequisite: OEGS 187.

OEGS 231. Geographic Information Systems Spatial Modeling 3 cr. (2+3P)
Spatial GIS modeling, with a focus on raster modeling. Prerequisite(s): OEGS 187. Restricted to: Community College campuses only.

OEGS 251. Cooperative Experience 2-4 cr.
Supervised cooperative work program between student and employer who uses GIS. Student is rated by employer and instructor. Weekly class meetings required. Prerequisites: OEGS 181 and consent of instructor. Corequisite: OEGS 187. Restricted to OEGS majors. Graded S/U.

OEGS 291. Special Topics in Geographic Information Systems 1-3 cr.
Topics to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEH O- HEALTH OCCUPATIONS

OEH O 100. Applied Human Biology 3 cr. (2+2P)
Designed for pre-allied health students to explore the fundamentals of human biology, physiology functions.

OEH O 101. Communication for Health Care 3 cr.
Oral, written, and affective communication skills for individuals interested in pursuing a career in health care. Restricted to: All Community Colleges.

OEH O 110. Survey of Health Care Careers 3 cr.
In-depth exploration of a variety of health occupations. Includes some observation experiences. RR applicable.

OEH O 116. Math for Health Occupations 3 cr.
Principles of math and pharmacology necessary for administration of medications. Prerequisite(s): CCDM 114N or equivalent. Restricted to: All Community Colleges.

OEH O 120. Medical Terminology 3 cr.
Study of medical terminology as it relates to understanding diseases, their causes and effects, and the terminology used by the medical specialties. Stress is placed on medical terms, their use, spelling, English translation, and pronunciation. Same as NURS 190 and BOT 150.

OEH O 135. Human Maturation 3 cr.
Exploration of cognitive, affective, and kinesthetic concepts of human development from conception to death. RR applicable.

OEH O 140. Essentials of Anatomy and Physiology 4 cr. (3+3P)
Essentials of anatomy and physiology for those considering a career in health as well as those interested in understanding their own body and the basics of health.

OEH O 153. Introduction to Anatomy and Physiology I 4 cr. (3+3P)
Survey of human anatomy and physiology. Prerequisite: high school biology or high school chemistry, or CHEM 110G, or consent of instructor.

OEH O 154. Introduction to Anatomy and Physiology II 4 cr. (3+3P)
Continuation of OEH O 153. Prerequisites: CHEM 110G and OEH O 153, or consent of instructor.

OEH O 155. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits.
OEHO 175. Health Careers Survey I  
An introductory overview class for students interested in the medical field. Information regarding education course requirements in preparation for post-secondary schooling and presentations by guest speakers from a variety of health positions in the community will be featured. Topics include history of medicine, safety, universal precautions and medical ethics; beginning knowledge of communication skills; basic elements of medical terminology and medical abbreviations; procedures for vital sign assessment.

OEHO 176. Health Careers Survey II  
Builds upon Health Careers Survey I. In depth view of medical terminology and abbreviations and communication techniques; current health care issues and health education. Confidentiality and medical ethics are stressed. Guest speakers from the community will share their experiences in the medical field. Student must have a current TB test. Prerequisites: a C or better in OEHO 175, or consent of instructor.

OEHO 177. Health Careers Coop I  
6 cr. (4+4P)  
Introduction to Certified Nursing Assistant (CNA) nursing and a variety of other medical opportunities. CNA skills and simple assessment; practice of the skills provided in a laboratory setting and may include on-site clinicals. Written and verbal communication skills are emphasized. The legal and ethical aspects of nurse aide practice are also included. Medical terminology will be used throughout the course. Student must have a current TB test. Prerequisites: C or better in OEC 175 and OEC 176 or consent of instructor.

OEHO 178. Health Careers Coop II  
6 cr. (4+4P)  
Builds on Health Careers Survey I, II and Health Careers Coop I. CNA skills and assessments will continue to be practiced and refined in the laboratory setting as well as on site clinicals. Some job shadowing may be included. Legal and ethical standards will be a primary focus. Written and verbal communication skills will be expanded. Confidentiality will be stressed. Medical terminology will be used throughout the course. Student must have a current TB test. Prerequisites: OEHO 175, OEHO 176 and OEHO 177 or consent of instructor.

OEHO 200. Independent Study  
1-4 cr.  
Individual studies directed by a consenting faculty member. Prior approval of the department head required. Prerequisite: consent of instructor. May be repeated for a maximum of 10 credits. Restricted to majors.

OEHO 202. Legal and Ethical Issues in Health Care  
3 cr.  
Consideration of legal and ethical issues in modern health care delivery.

OEHO 225. Nutrition for Health Occupations  
3 cr.  
Principles of normal and clinical nutrition for health professions. Prerequisites: high school biology and high school chemistry and CHEM 110G and OEHO 153 or equivalent or consent of instructor. Corequisite: OEHO 154 or consent of instructor.

OEHO 253. Microbiology for Health Occupations  
4 cr. (3-3P)  
Study of the relationship between pathogenic organisms and disease processes. Prerequisites: high school biology and high school chemistry, CHEM 110G, and OEHO 153 or equivalent or consent of instructor. Corequisite: OEHO 154 or equivalent.

OEHO 255. Special Topics  
1-6 cr.  
Topics to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits.

OEHP 220. Radiation Protection  
3 cr.  
Protection of human beings from the effects of ionizing radiation; dose determinations, regulations, engineering designs, environmental monitoring, and bioassay techniques. Prerequisite: OEHP 120.

OEHP 221. Cooperative Experience I  
1-6 cr.  
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U. Prerequisite: consent of instructor.

OEHP 225. Hazardous Materials Sampling and Analysis  
4 cr.  
Sampling and analysis techniques of hazardous materials; instrumentation and proper usage, representative sample analysis, and hazard evaluation. Prerequisites: OEHP 115 and CHEM 110G.

OEHP 245. Radioactive and Hazardous Waste Management  
3 cr.  
Radioactive and hazardous waste management technologies, such as elimination of waste streams, waste reduction, and waste recycling, treatment and disposal. Prerequisites: OEHP 115 and OEHP 120.

OEHP 255. Emergency Response Techniques  
2 cr.  
Actions required to stabilize, mitigate, and recover from an accident that results in a radioactive or hazardous materials release to the environment. Prerequisites: OEHP 115 and OEHP 120.

OEHP 275. Radiation Biology  
2 cr.  
Effects of ionizing radiation on biological systems; acute, chronic, and genetic effects of ionizing radiation on humans. Prerequisite: OEHP 120.

OEHP 295. Special Topics  
1-3 cr.  
Subjects to be announced in the Schedule of Classes.

OEMG- MANUFACTURING TECHNOLOGY

OEMG 101. Introduction to Automation  
3 cr.  
This course will introduce the students to the world of manufacturing from business to production and from raw material to finished goods. Students will be exposed to various manufacturing industries making various products around the world. Course will include historical and present trends.

OEMG 105. Introduction to Manufacturing  
3 cr. (2P)  
Introduction to manufacturing evolution from basic assembly process to modern automated process including world of manufacturing from business to production operation and from raw materials to finished goods. Covers history, employability soft skills, quality measurements, teamwork concept, production requirements, and considerations in plant layout and design, exposes students to various manufacturing industries making various products around the world. Restricted to: Community College campuses only.

OEMG 106. Applied Manufacturing Practices  
3 cr. (1P)  
Use of measuring tools in manufacturing process and quality control. These tools include: vernier and digital micrometers, calipers, height gauges, hole gauges, pin gauges, electrical pressure/flow, temperature measuring, stress/strain measurements, and non-destructive testing (eddy currents, magnetic particle, ultrasonic, bubble emission, x-ray, Gamma ray, radiography, visual inspection, ring test, taping & Zygo). Instruction to use of coordinate machine while covering the safety issues that pertain to these tools and equipment.

OEMG 108. Metrology, Safety and Quality Control for Manufacturing  
3 cr. (1P)  
Course will illustrate how various products are manufactured along with associated process. Mechanical behavior such as bending, cold worked, strained, work hardened, & heat transfer will be emphasized as well. In lab, students will learn how to make selected products starting from prints to complete projects including quality control. Restricted to: Community College campuses only.

OEMG 110. Machine Operation and Safety  
3 cr. (1P)  
Introduction to the operation and safety aspects of various types of machinery and equipment, including both mechanical and electrical machines, Rigid Tubing, and Flexible Lines. Maintenance and safety operation of industrial equipment will also be covered. Restricted to: Community College campuses only.

OEMG 115. Print Reading for Industry  
3 cr. (2+2P)  
Reading, interpretation, and revisions of industrial technical drawings common to manufacturing, Aerospace, machine parts, electrical, hydraulic, and Pneumatic drawings. Interpretation of engineering drawings and related shop calculations. Introduction to computer-aided drawing of schematic diagrams. Restricted to: Community College campuses only.
OEMG 125. Industrial Electricity Maintenance 4 cr. (3+3P)  
Electrical safety rules, DC, AC, and solid state circuits, use and care of common measuring instrumentation, schematic and wiring diagrams, electromagnetism, National Electric Code branch circuits. Relationship between motor power, speed, and torque, basic application of relay circuits, motor control circuits, inductance and capacitance factors, transformers, solid state devices and applications, digital devices and controls. Prerequisite: OEES 130 or consent of instructor.

OEMG 120. Applied Industrial Electricity I 4 cr. (3+3P)  
Electrical safety, AC and DC circuits, use and care of common measuring instrumentation, schematic and wiring diagrams, electromagnetism, National Electric Code branch circuits. Prerequisite: OEES 120 or OETS 118 and consent of instructor.

OEMG 135. Basic Machining Technology I 5 cr. (6+3P)  
Introduction to EDM, saws and sawing practices, and various lathe operations. Prerequisite: OEMG 120 or equivalent math course.

OEMG 140. Industrial Digital Devices 4 cr. (3+3P)  
Digital techniques, practical applications of number systems, basic logic gates, Boolean algebra, combination circuits, tri-state logic, latches and flip-flops, counters and registers, and digital position encoders. Prerequisite: OEMG 130 or consent of instructor.

OEMG 145. Electromechanical Systems for Non-Majors 4 cr. (3+3P)  
Electromechanical system interfacing. Principles and applications of preventive and corrective maintenance procedures on automated industrial production machines using system technical and maintenance manuals to develop troubleshooting procedures using systems block and schematic diagrams. Prerequisite: consent of instructor.

OEMG 250. Semiconductor Manufacturing Technology I 3 cr. (2+2P)  

OEMG 251. Semiconductor Manufacturing Technology II 3 cr. (2+2P)  
Students continue to explore processes, materials, and equipment used in semiconductor manufacturing. Covers ion implantation, photo-lithography and etch. Prerequisite: OEMG 250. Corequisite: OEMG 220.

OEMG 255. Special Problems in Semiconductor Manufacturing Technology 1-6 cr.  
Individual studies in areas directly related to semiconductor manufacturing. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEMG 265. Special Topics 1-6 cr.  
Course subtitled in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEMN- FACILITY MAINTENANCE TECHNOLOGY

OEMN 100. Interior Building Maintenance 4 cr. (2+4P)  
Skills and technical information about materials, processes, construction, maintenance, and repair for walls, ceilings, floors, doors, windows, locks, closures, and furniture. Interior coatings, basic electrical and plumbing repairs, and hand/power tools.

OEMN 105. Introduction to Building Trades and Maintenance 4 cr. (4+1P)  
Basic safety; introduction to construction math, hand tools, power tools, and blueprints; basic rigging; and soft skills for the construction and maintenance industry. Same as OEAR 105.

OEMN 110. Small Equipment Maintenance and Repair 4 cr. (3+2P)  
Covers small engine theory, troubleshooting and repair, auto maintenance, hydraulic theory and repair lubricants, batteries and scheduled tool maintenance.

OEMN 111. Basic Hydraulics 3 cr. (2+2P)  
Hydraulic system safety and basic principles of hydraulics, including Pascal’s law and Bernoulli’s principle. Explains the function of fluids, parts, pumps, and motors. Prerequisite: OEMN 105 or consent of instructor.

OEMN 112. Basic Pneumatics 3 cr. (2+2P)  
Pneumatic safety, characteristics of gases and how they are compressed, pneumatic transmission of energy, and compressor operation. Prerequisite: OEMN 105 or consent of instructor.
OEMN 115. Blueprint Reading 3 cr. (2+2P)
Reading, interpretation, and revisions of industrial technical drawings common to manufacturing. Integration of engineering and related shop calculations. Introduction to computer-aided drawing of schematic diagrams. Prerequisite: OEMN 118 or consent of instructor.

OEMN 116. Basic Machining 3 cr. (2+2P)
Basic manufacturing processes. Familiarization with operation and maintenance of lathes, saws, drill presses, and milling machines. Prerequisite: OEMN 115.

OEMN 120. Painting and Finishing Techniques 4 cr. (2+4P)
Types and application of paints and clear coatings. Use of fasteners, adhesives, caulks, and sealants.

OEMN 130. Carpentry Repair Techniques 4 cr. (3+2P)
Tool safety, use, and maintenance. Wood and related products, joinery, framing and blocking, jigs and fixtures, etc. Student will gain knowledge and skills for entry-level carpentry repair as a facilities maintenance technician.

OEMN 140. Orientation to Landscape Design 2 cr.
Overview of fundamental design principles, as well as the design process itself, to facilitate communication between designers and installation technicians.

OEMN 150. Landscape Irrigation Systems 4 cr. (3+2P)
Covers the installation and repair of sprinkler and drip irrigation systems, with xeriscape (landscape water conservation) principles emphasized. Includes the study of fittings, piping, valves, backflow preventers, controllers, sprinklers and emitters, and automatic timing devices.

OEMN 160. Landscape Construction Practices I 3 cr. (1+4P)
Establishing a finished landscape from the printed plan. Includes elementary surveying and grade interpretation, blueprint reading, landscape layout, selection and use of tools and power equipment, hardscaping construction, and the installation of irrigation systems, drainage systems and plant materials.

OEMN 170. Landscape Construction II 3 cr. (1+4P)
Continuation of OEMN 160 with emphasis on advanced landscape construction techniques. Prerequisite: consent of instructor.

OEMN 200. Exterior Building Maintenance 4 cr. (2+4P)
Construction and repair of exterior walls, roofs, masonry, and signs. Concrete, asphalt and exterior paint repair considerations included.

OEMN 209. Basic Electricity for Maintenance 3 cr. (2+2P)
Basic practical electrical safety. Introduction to VOM, power generation, distribution and application. Ohm’s law with specific applications. DC, AC, single phase and AC polyphase characteristics, power sources and supply applications.

OEMN 210. Electrical Systems Troubleshooting and Repair 4 cr. (3+2P)
Hands-on experience in electrical systems maintenance and repair. Use of V.O.M., electrical safety, codes and standards; motors, cable and wire types, and grounding. Prerequisite: DEAR 102 or consent of instructor.

OEMN 220. Plumbing and Climate Systems Maintenance 4 cr. (3+2P)
Covers selection, types, repair, and maintenance of heating and cooling systems, piping, ducting, valves, controls, swimming pools, and fountains.

OEMN 221. Co-op Experience 1 cr.
Supervised cooperative work program. Student is employed in an approved facilities maintenance operation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Prerequisite: consent of instructor. Graded S/U.

OEMN 230. Facilities Maintenance Management 4 cr.
Study of ethics, codes, regulations, scheduling, policy, procedures and resume preparation. Employee supervision and effective communication techniques as related to facilities maintenance and landscape technologies.

OEMN 240. Hazardous Materials Handling and Regulations 1 cr.
Handling, storage, and disposal of hazardous materials. Emphasis will be placed on safe handling, respirators, body coverage protection, and exposure guidelines, as well as M.S.D.S. and other information-based systems for tracking and use/storage of toxic substances.

OEMN 250. Mechanical Maintenance I 3 cr. (2+2P)
Introduction to bearings, installation, removal and troubleshooting bearings; installing couplings and coupling removal procedures; belt and chain drives; function and installation of mechanical seals, gaskets, and packing. Prerequisite: OEMN 105 or consent of instructor.

OEMN 251. Mechanical Maintenance II 3 cr. (2+2P)
Installing dynamic and static seals; pumps; troubleshooting and repair of gearboxes. Prerequisite: OEMN 105 or consent of instructor.

OEMN 252. Alignment 3 cr. (2+2P)
Conventional and reverse alignment; types of misalignment, aligning couplings using a straightedge and feeler gauge; adjusting face and OD alignment using a dial indicator; eliminating; coupling stress. Use of reverse dial indicator. Prerequisite: OEMN 105 or consent of instructor.

OEMN 255. Special Problems in Facilities Maintenance 1-4 cr.
Individualized study relative to special topics of interest within the program. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEMN 260. Landscape Management/Maintenance I 3 cr. (2+2P)
Aspects of plant care from plant identification to scheduling fertilizer and water applications. Includes greenhouse management, landscaping, and use of related tools and equipment. OEMN 270. Landscape Management/Maintenance II 3 cr. (2+2P) Continuation of OEMN 260 with emphasis on advanced landscape management techniques in an applied setting. Prerequisite: consent of instructor.

OEMN 270. Landscape Management/Maintenance II 3 cr. (2+2P)
Continuation of OEMN 260 with emphasis on advanced landscape management techniques in an applied setting. Prerequisite: consent of instructor.

OEMN 280. Professional development and Leadership 1-3 cr.
As members and/or officers of student professional organizations or students of building construction, facilities maintenance, and landscape technologies, students gain experience in leadership, team building, and community services. May be repeated for a maximum of 6 credits.

OEMN 290. Special Topics in Facilities Maintenance 1-5 cr.
Topics to be announced in the Schedule of Classes. Prerequisite: consent of instructor.

OEMT - MEDICAL TECHNOLOGY

OEMT 101. Medical Technology I 3 cr.
Basic medical laboratory techniques and procedures; urinalysis, normal hematology, immunology, anemias, and instrumentation. Corequisite: OEMT 101L.

OEMT 101 L. Medical Technology I Laboratory 2 cr. (6P)
Covers the basic medical laboratory techniques and procedures; urinalysis, hematology, instrumentation, basic lab math and phlebotomy. Basic phlebotomy practicum in affiliated hospitals. Corequisite: OEMT 101.

OEMT 102. Medical Technology II 3 cr.
Continuation of abnormal hematology including leukemias and other hematologic disorders; coagulation, serology, and immunohematology. Corequisite: OEMT 102L.

OEMT 102 L. Medical Technology II Laboratory 2 cr. (6P)
Basic medical laboratory techniques and procedures in abnormal hematology, coagulation, serology/immunology, immunohematology, and instrumentation. Corequisite: OEMT 102.

OEMT 103. Medical Technology Practicum 6 cr. (16P)
A summer program in practical experience with affiliated hospitals in the disciplines of urinalysis, hematology, blood banking, coagulation, and serology.

OEMT 155. Special Topics 1-6 cr.
Specific subjects to be announced in the Schedule of Classes.

OEMT 190. Parasitology 2 cr. (1+3P)
Clinical parasitology covering the life cycles, identification of, and diseases caused by pathogenic parasites. Prerequisites: OEMT 101 and OEMT 102. Restricted to majors.

OEMT 201. Clinical Microbiology 3 cr.
Clinical bacteriology, virology, mycology, and serology. Corequisite: OEMT 201L. Restricted to OEMT and ANSC majors.

OEMT 201 L. Clinical Microbiology Laboratory 2 cr. (6P)
Basic medical laboratory techniques and procedures in bacteriology, mycology, and serology. Corequisite: OEMT 201.

OEMT 202. Clinical Chemistry 3 cr.
Organic chemistry in relation to clinical chemistry; clinical chemistry determinations, normal vs. abnormal constituents, and clinical significance of pathological conditions. Corequisite: OEMT 202L.

OEMT 202 L. Clinical Chemistry Laboratory 2 cr. (6P)
Basic laboratory techniques and procedures in clinical chemistry, lab math, and instrumentation. Corequisite: OEMT 202.

OEMT 231. Clinical Microbiology Practicum 3 cr. (8P)
Basic practicum in affiliated hospitals. Emphasis on microbiology, serology, instrumentation, and review of other areas of laboratory medicine.
OENA 107. Medication Assistant 5 cr. (4+3P)
OENA 105. Certified Nursing Assistant Clinicals 4 cr. (3+3P)
OENA 104. Certified Nursing Assistant Fundamentals 4 cr. (3+3P)
OEPB 100. Basic Plumbing Materials and Systems 5 cr. (3+4P)
OEPB-PLUMBING
OENA 101. Nursing Assistant Theory and Lab 3-6 cr. (4+4P)
OEMT 232. Clinical Chemistry Practicum 3 cr. (8P)
OEPB 110. Blueprint Reading for Building Trades 4 cr. (3+3P)
OEPB 102. Fundamentals of Electricity 4 cr. (3+2P)
OEPB 104. Certified Nursing Assistant Fundamentals 4 cr. (3-3P)
OEPB 106. Home Health Assistant 3 cr. (3+3P)
OEPB 220. Cooperative Experience I 3 cr.
OEPB 255. Special Topics 1-6 cr.
OEPB 152. Introduction to Plumbing II 4 cr. (3-3P)
OEPB 153. Drain, Waste, and Vent Plumbing Systems 6 cr. (5+2P)
OEPB 154. Water Distribution Systems and Fixtures 5 cr. (4-2P)
OEPB 207. Residential Air Conditioning Systems 6 cr. (4-4P)
OEPB 209. Residential Heating Systems 4 cr. (3-3P)
OEPB 250. Advanced Plumbing I 4 cr. (3-3P)
OEPB 251. Advanced Plumbing II 6 cr. (5+2P)
OEPB 252. Advanced Plumbing III 5 cr. (4+2P)
OEPB 253. Advanced Plumbing IV 5 cr. (4+2P)
OEPH 100. Introduction to Anatomy and Physiology for the Phlebotomist 4 cr. (3-3P)
OEPH 101. Introduction to Phlebotomy I 3 cr.
OEPH 101 L. Introduction to Phlebotomy Lab 2 cr. (6P)
OEPH 104. Certified Nursing Assistant Fundamentals 4 cr. (3+3P)
OEPH 107. Medication Assistant 5 cr. (3-3P)
OEPH 110. Electrocardiogram Technician Basic 4 cr. (1+9P)
OEPH 111. Alzheimer/Dementia Care Focus 3 cr.

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OEPH 102. Introduction to Phlebotomy II 3 cr.
Teaches specific medical terms and diseases associated with various anatomical locations, complications of venipuncture, total quality management, and quality assurance. Prerequisites: OEPN 101 and 101L. Corequisite: OEPH 103. Restricted to majors.

OEPH 103. Phlebotomy Practicum 4 cr. (6P)
Clinical practicum in affiliated facilities, where students will gain additional practice in techniques, point-of-care testing, and observing arterial punctures, and will become oriented with a health care setting. Prerequisite: OEPH 101 and 101L. Corequisite: OEPH 102. Restricted to majors.

OEPH- POWER MECHANICS

OEPM 100. General Mechanics 3 cr. (1+4P)
Same as OEAT 100.

OEPM 118. Technical Math for Mechanics 3 cr. (2+3P)
Geometry, algebra, and basic arithmetic pertaining to mathematical applications in the automotive trades.

OEPM 120. Electrical Systems 4 cr. (2+4P)
Troubleshooting and repair of starters, alternators, and associated circuits. Reading electrical diagrams, diagnosis and repair of electrical accessories. Prerequisites: OAT 102, OAT 110, or consent of instructor.

OEPM 125. Brakes 5 cr. (2+6P)
Same as OAT 125.

OEPM 221. Cooperative Experience I 1-4 cr.
Supervised cooperative work program. Student is employed in an approved occupation and supervised and rated by the employer and instructor. Student will meet in a weekly class. Graded S/U. Prerequisite: consent of instructor.

OEPM 222. Cooperative Experience II 1-4 cr.
Continuation of OEPM 221. Grade S/U. Prerequisite: consent of instructor.

OEPM 295. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes.

OEPN- PRACTICAL NURSING

OEPN 100. Foundation of Practical Nursing 7 cr. (4+9P)
Introduces nursing practices, including wellness and health promotion, legal and ethical issues, communication, and nursing process, as well as medical-surgical nursing. Includes campus laboratory and off-campus clinical experiences. Application of theory and skills in provision of direct patient care. Prerequisites: HNFS 251 and OEPN 116. Corequisite: consent of instructor.

OEPN 110. Pharmacology and Administration of Medications 2 cr.
Provides knowledge base and skills essential for safe administration of medications. Includes dosage, action and side effects of commonly used drugs, calculation of dosage, and skills for administering oral and parenteral medications. Prerequisites: OEH 110 and admission to program. Corequisites: OEH 135, OEH 140, and OEPN 111. Restricted to majors.

OEPN 111. Nursing Across the Life Span I 4 cr. (2+6P)
Builds upon previous courses and includes medical-surgical nursing, maternal-infant care, and pediatric nursing. Includes campus laboratory and off-campus clinical experiences. Application of theory and skills in provision of direct patient care. Prerequisites: OEH 135, OEH 140, OEPN 110, and OEPN 111. Corequisites: HNFS 251. Restricted to majors.

OEPN 116. Nursing Across the Life Span II 4 cr.

OEPN 120. Nursing Across the Life Span III 10 cr. (5+15P)
Completes medical-surgical nursing, including response to emergencies and functioning as a health team member. Includes campus laboratory and off-campus clinical experiences. Application of theory and skills in provision of direct patient care. Prerequisites: HNFS 251 and OEPN 116. Corequisites: ENGL 111G and OEPN 122. Restricted to majors.

OEPN 122. Practical Role of the Practical Nurse 2 cr.
Provides knowledge and skills to make a successful transition from student to licensed practical nurse, including scope of practice, the Nurse Practice Act, legal and ethical responsibilities, opportunities for employment and professional development, and job-seeking skills. Prerequisite: OEPN 116. Corequisite: OEPN 120. Restricted to majors.

OEPN 155. Special Topics 1-6 cr.
Specific topics to be announced in the Schedule of Classes. Prerequisite: admission to program or consent of instructor. May be repeated for a maximum of 6 credits. Restricted to majors.

OEPN 200. Independent Study 1-4 cr.
Individual studies to meet identified student needs. Prerequisite: admission to program and consent of instructor. May be repeated for a maximum of 4 credits. Restricted to majors.

OEPS- PUBLIC SAFETY

OEPS 101. Introduction to Public Safety 3 cr.
Introduces to public safety careers, including communication skills, ethics, and report writing.

OEPS 110. Communications for Public Safety Officers 2 cr. (1+2P)
Prepares public safety officers in communication skills applied to law enforcement situations including report writing, use of the radio and telephone, as well as verbal and nonverbal communications. The National Crime Information Center will be introduced, as will New Mexico Law Enforcement Telecommunications Systems Computers.

OEPS 111. Vehicle Operations and Firearms 2 cr. (1+2P)
Vehicle operations factors and liability issues for the law enforcement field. Will include emergency and pursuit driving strategies. Firearms safety training and nomenclature/maintenance of firearms. Will include deadly force simulation.

OEPS 112. Patrol Fitness and Defensive Tactics 1 cr. (1P)
Physical fitness, health, and conditioning for the public safety officer, including stress management techniques. Use of force/reactive control model, subject and custody control, defense tactics during arrest situations. Medical implications addressed.

OEPS 113. Patrol Concepts 2 cr. (1+2P)
Introduction to patrol concepts including common patrol tactics, high risk patrol tactics, and crime prevention. Strategies for handling individuals with special needs and domestic violence simulation exercises will be practiced.

OEPS 114. Traffic Enforcement and Accident Investigation 2 cr. (1+2P)
Reviews problems of traffic in law enforcement. Covers New Mexico Motor Vehicle Laws and the Uniform Traffic Ordinance. Practice in completing The Uniform Traffic Accident Report used to conduct an accident investigation.

OEPS 115. The Law and the Criminal Justice System 3 cr. (2+2P)
Introduction to the criminal justice system at the federal, state and local levels. Includes jurisdictions and responsibilities of each level and the various sources of law applicable to law enforcement. Review different crimes and populations covered by the law.

OEPS 116. Criminal Law Procedures 3 cr. (2+2P)
Focuses on the constitutional rights guaranteed by the Fifth and Sixth Amendments. The basic concepts of evidence used for investigating more serious crimes. Skills in pretrial preparation emphasized.

OEPS 117. Criminal Investigation Practices 3 cr.
Investigation strategies for various crimes. Practice in conducting interviews and interrogating suspects, as well as techniques for preparing and providing testimony. Crime lab experiences for collecting evidence. Basic hazardous materials training.

OEPS 150. Correctional Officer Training I 4 cr. (4+4P)
Introduction to corrections, departmental policies and procedures, report writing, officer safety, and physical conditioning. Prerequisite: consent of instructor. Restricted to majors.

OEPS 155. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEPS 180. Correctional Officer Training II 4 cr. (4+4P)
Criminal justice system, communications, ethics, correctional law and responsibilities, search procedures, hostage situations, institutional gangs. Prerequisite: consent of instructor. Restricted to majors OEPS 195.

OEPS 195. Corrections Supplemental Training I 1-3 cr.
Topics to be announced in the Schedule of Classes. Provides supplemental and specialized training in corrections. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits. Community Colleges only.

OEPS 220. Cooperative Experience 1-3 cr.
Supervised cooperative work program. Student is employed in an approved occupation and rated by the employer and instructor. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. Restricted to majors. Graded S/U.
OEPT 100. Photographics I 3 cr. (2+2P)
Use of force, firearms, baton, chemical agents, standard first aid, and CPR. Prerequisite: consent of instructor. Restricted to majors.

OEPT 255. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEPT 280. Correctional Officer Training IV 4 cr. (2+2P)
Stress management, supervision of special needs offender, defensive driving, preparation for certifying exams. Prerequisite: consent of instructor. Restricted to majors.

OEPT 295. Corrections Supplemental Training II 1-3 cr.
Topics to be announced in the Schedule of Classes. Provides supplemental and specialized training in corrections. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEPT - PHOTOGRAPHIC TRADES

OEPT 100. Photographics I 3 cr. (2+2P)
Covers basic black and white photographic techniques. Emphasizes black and white film and paper handling, film processing, proof printing, projection print, and print finishing. Adjustable camera required. Same as ART 270.

OEPT 101. Photographics II 3 cr. (2+2P)
Black and white film exposure control. Application of copying techniques, recognition of light values, and basic lighting techniques. Exposure, developing, printing, and finishing. Prerequisite: OEPT 100.

OEPT 102. Special Topics 1-6 cr.
Topics to be announced in the Schedule of Classes. May be repeated for a maximum of 6 credits.

OEPT 105. Fine Art Photography 3 cr. (2+2P)
Using black and white photography as a creative art form. Lectures and assignments designed to stimulate the student's creativity. Prerequisite: OEPT 100.

OEPT 115. Photographic Theory 3 cr. (2+2P)
Theories of light and optics. Types and effects of light, light measuring devices, photographic flaws and remedies, and exposure systems. Zone System of exposure and development control. Prerequisite: OEPT 100.

OEPT 120. Photo Finishing and Presentation 2 cr. (1+2P)
Use of visual language for personal expression. Freelance photography; care of original photos; preparation of portfolios, photographic markets, exhibitions and judging, galleries and copyrights. Students will prepare a photographic portfolio. Prerequisites: OEPT 100 and OEPT 101.

OEPT 130. Digital Imaging 3 cr. (2+2P)
Digital imaging on the Macintosh. Introduction to basic and intermediate concepts of Adobe Photoshop. Inputting, correcting, retouching, manipulating, and outputting of images. Prerequisite: OEPT 100 or consent of instructor. Same as ART 161.

OEPT 150. Color Photography I 3 cr. (2+2P)
Color theory and principles with emphasis on film, exposure, color balance, filtration, and digital output. Visual language of color products introduced. Work with positive film. Work with digital output using Adobe Photoshop. Prerequisite(s): OEPT 100 or consent of instructor. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OEPT 155. Portraiture 3 cr. (2+2P)
Hands-on study of professional photography involving people. Studio and environmental portraits, fashion/ glamour, and wedding photography. Studio and exterior lighting techniques, selecting lighting equipment, film and supplies. Prerequisite: OEPT 100.

OEPT 165. Web Page Design 3 cr. (2+2P)
Introduction to creating visually appealing, well-designed Web sites. Emphasis on building user-friendly, creative sites. Introduction to professional Web authoring software. Prerequisite: OEPT 130 or consent of instructor. Same as ART 165.

OEPT 190. Photographic Practice I 2 cr. (1+2P)
Self-paced instruction to include production, display of work in a simulated self-employed situation. Students must record maintenance, cost expenditures, shooting records, and sequence boards for presentation. Prerequisites: OEPT 101 and OEPT 150, or consent of instructor.

OEPT 192. Photocommunications 2 cr. (1+2P)
Human interest, events, documentation, publications, and advertising. Emphasis on equipment, darkroom writing, legal aspects, and visual communication skills. Prerequisite: OEPT 100 or consent of instructor.

OEPT 210. The 4×5 Camera 4 cr. (3+2P)
Intensive study and use of the 4×5 studio camera. Mastering the use of all camera movements and schiemiplflug techniques. Emphasis on studio photography. Use of color, black and white, and Polaroid films. Prerequisites: OEPT 101 and OEPT 150.

OEPT 212. Advanced Studio Lighting 3 cr. (2+2P)
Advanced studio lighting techniques, both table-top and large scale productions. Work with light in controlled environment to produce high quality studio images. Learn to work on large group projects. Prerequisite: OEPT 210.

OEPT 215. Color Photography II 3 cr. (2+2P)
Advanced color shooting and printing techniques introduced in a variety of applications. Printing of both positive and negative film is studied and implemented. Problem solving with studio and field portfolio shooting stressed. Prerequisites: OEPT 101 and OEPT 150, or consent of instructor.

OEPT 217. Digital Imaging II 3 cr. (2+2P)
Advanced studies of Adobe Photoshop. Work with large file production, using all functions of Photoshop; color management systems; solving pre-press problems. Emphasis on input and output predictability. Prerequisite: OEPT 216.

OEPT 220. Experimental Photography 3 cr. (1+4P)
Creativity through special photographic techniques; filters, multiple exposure, multi-color, selective focus, reticulation, vignetting, texture screens, toning, extreme pushing, and films. Prerequisite: OEPT 100 or consent of instructor.

OEPT 221. Introduction to Videography 3 cr. (1+4P)
Video cameras as photographic tools, equipment, operation, production, editing, scripting, and post production.

OEPT 273. Advanced Web Page Design 3 cr. (2+2P)
Continuation of OEPT 165. Advanced development and management of Web page design. Introduction to advanced techniques such as building custom forms, shopping carts, interactive sites, etc. Prerequisite: OEPT 165 or consent of instructor. Same as ART 273.

OEPT 290. Internship 3 cr. (1+4P)
Supervised internship program. Student will work for an approved business in his/her area of study. Student will be rated by business supervisor and instructor. Weekly meetings required with instructor. Prerequisite: consent of instructor. Graded S/U.

OERC - RESPIRATORY CARE

OERC 110. Respiratory Therapy I 3 cr.
Introduction to basic respiratory care techniques. Includes history, professional organizations, medical gas administration, oxygen therapy, cardiopulmonary AP, patient assessments, and medical terminology. Prerequisite: admission to program, OEOH 115 and OEOH 120. Corequisite: OERC 110L. Restricted to majors. Requires a C or better to remain in program.

OERC 110 L. Respiratory Therapy I Lab 2 cr.
Laboratory practice of basic respiratory care procedures. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): Admission to program, OEOH 116 or MATH 120. Corequisite(s): OERC 110. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 112. Respiratory Therapy Physics 3 cr.
Concepts of physics as they apply to the physiology of the lungs. Emphasis on laws pertaining to gas, gas flow, humidity, and the mechanics of the breathing process. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): Admission to RC program, OEOH 116 or MATH 115. Restricted to: All Community Colleges.

OERC 120. Respiratory Therapy II 3 cr.
Advanced respiratory care techniques. Emphasis on airway management, aerosol treatment, chest physiotherapy, pharmacology, posture pressure breathing, and pulmonary rehabilitation. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 110. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 120 L. Respiratory Therapy II Lab 2 cr. (6P)
Continuation of lab practices and procedures learned in OERC 120, Respiratory Care II, using equipment and simulations. Prerequisite: OERC 110, OERC 110L and OERC 112. Corequisite: OERC 120. Restricted to majors. Requires a C or better to remain in program.
OERC 123. Respiratory Therapy Pharmacology 3 cr.
- Concepts of physics as they apply to the physiology of the lungs. Emphasis on laws pertaining to gas, gas flow, humidity, and the mechanics of the breath process. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 110, OERC 110L and OERC 112. Restricted to: Dona Ana campus only.

OERC 124. Respiratory Therapy II Clinical 3 cr. (SP)
- Supervised practice and application in a hospital setting. Prerequisites: OERC 110, OERC 108L and OERC 112. Corequisites: OERC 120 and OERC 120L. Restricted to majors. Requires a C or better to remain in program.

OERC 155. Respiratory Therapy Special Topics 1-4 cr.
- Topics to be announced in the Schedule of Classes. May be repeated for a maximum of 10 credits. Consent of instructor required. Restricted to: All Community Colleges. Restricted to OERC majors.

OERC 210. Respiratory Therapy III 2 cr.
- Introduction to adult, mechanical, neonatal ventilator theory and concepts of critical care medicine. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 120, OERC 120L, OERC 122 and OERC 124. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 210L. Respiratory Therapy III Lab 2 cr.
- Advanced practice procedures using mechanical ventilation devices. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 120, OERC 120L, OERC 122 and OERC 124. Corequisite(s): OERC 210. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 224. Respiratory Therapy IV Clinical 3 cr. (SP)
- Continuation of OERC 124. Emphasis on mechanical ventilators. Prerequisite(s): OERC 120, OERC 120L, OERC 122 and OERC 124. Corequisite(s): OERC 210. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 232. Respiratory Therapy Cardiopulmonary 2 cr.
- Concepts of physics as they apply to the physiology of the lung. Emphasis on laws pertaining to gas flow, humidity, and the mechanics of the breathing process. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 220, OERC 220L, OERC 222 and OERC 224. Corequisite(s): OERC 230. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 233. Respiratory Therapy III Clinical 3 cr.
- Continuation of OERC 215. Emphasis on special modalities. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 210, OERC 210L and OERC 224. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 234. Respiratory Therapy IV Clinical 3 cr. (SP)
- Continuation of OERC 224. Emphasis on mechanical ventilators. Prerequisite(s): OERC 120, OERC 120L, OERC 122 and OERC 124. Corequisite(s): OERC 210. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 243. Respiratory Therapy Neonatal Resuscitation 1 cr.
- Advanced practice of the neonatal resuscitation and certification. OERC 244. Restricted to majors. Requires a C or better to remain in program. Prerequisite(s): OERC 220, OERC 220L, OERC 223, and OERC 234. Corequisite(s): OERC 240 and OERC 244. Restricted to: All Community Colleges.

OERC 244. Respiratory Therapy VI Clinical 3 cr. (SP)
- Clinical experience on special modalities. Prerequisites: OERC 230, OERC 230L, OERC 232 and OERC 234. Corequisite: OERC 240. Restricted to majors. Requires a C or better to remain in program.

OERC 245. Hyperbaric Oxygen 1 cr.
- Advanced practice of Hyperbaric Oxygen and certification. Prerequisite(s): OERC 110, OERC 110L, OERC 120, OERC 120L, OERC 123, OERC 124, OERC 210, OERC 210L, OERC 224, OERC 230, OERC 230L, OERC 233, OERC 234, OERC 243. Prerequisite(s): OERC 240, OERC 240L, OERC 244. Restricted to: Community College campuses only. Restricted to OERC majors.

OERC 255. Respiratory Therapy Special Topics 1-4 cr.
- Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 4 credits. Restricted to majors. Consent of instructor required. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERC 260. Polysomnography I 3 cr.
- Optional program of study for students interested in Polysomnographic technology. Provides didactic training for entry-level personnel in the basics of Polysomnographic technology. Familiarization with medical terminology, instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, and patient-technologist interaction related to Polysomnographic technology. Prerequisites: completion of OERC program. Corequisites: OERC 262, OERC 264 and OERC 266. Restricted to majors. Requires a C or better to pass.

OERC 261. Polysomnography II 3 cr.
- Expands on topics covered in Polysomnographic Technology I. Covers all aspects of sleep scoring and event recognition, instrumentation setup and calibration. Provides practice experience in high quality sleep recording. Prerequisites: completion of OERC program. Corequisites: OERC 260, OERC 264 and OERC 266. Restricted to majors. Requires a C or better to pass.

OERC 264. Polysomnography Laboratory 2 cr.
- Laboratory sessions will provide practical experience in the skills required to obtain and evaluate high levels of sleep recordings. Fundamentals of the therapeutic intervention. Multiple Sleep Latency Testing (MSLT) and maintenance of wakefulness testing (MWVT), sleep calculation pediatric scoring criteria and event recognition. Prerequisite: completion of OERC program. Corequisites: OERC 260, OERC 262 and OERC 266. Restricted to majors. Requires a C or better to pass.

OERC 266. Polysomnography Clinics 3 cr.
- Eighty contact hours in a sleep study clinic. Students will become proficient in 10-20 system of electrode placement/placement of biopotential electrodes. Patient preparation and equipment calibration procedures; patient bio calibration procedures; patient monitoring, documentation and trouble shooting techniques; procedures for ending a study. Prerequisite: completion of OERC program. Corequisites: OERC 260, OERC 262 and OERC 264. Restricted to majors. Requires a C or better to pass.

OERC 289. Respiratory Therapy Independent Study 1-10 cr.
- Individual study for respiratory care majors. Chosen topics must have approval of program coordinator. May be repeated for a maximum of 10 credits. Restricted to majors. Prerequisite(s): OERC 110. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus, Grants campus.

OERT- RADILOGIC TECHNOLOGY

OERT 100. Introduction to Radiologic Technology and Patient Care 2 cr.
- Overview of the profession, including ethics, terminology, and basic radiation protection. Addresses basic and specialized procedures and topics related to the care of the patient. Community Colleges Only. Restricted to Majors.

OERT 101. Radiographic Positioning I 4 cr. (2+6P)
- Covers radiographic procedure and positioning concepts, techniques, terminology, and mechanics related to the thorax, abdomen, extremities, spine and pelvis. Includes positioning lab and clinical observation.

OERT 103. Radiographic Positioning II 4 cr. (2+6P)

OERT 105. Introduction to Radiographic Imaging 3 cr. (2+2P)
- Provides the student with an in-depth knowledge of radiographic exposure technique and the factors affecting radiographic film quality. Includes lab experiments. Prerequisite: OERT 103. Restricted to majors.

OERT 107. Special Radiologic Modalities 2 cr.
- Discussion of various special procedures used in medical imaging such as, angiography, ultrasound, computerized tomography, magnetic resonance imaging, digital imaging, nuclear medicine, radiation therapy, etc. Includes guest lectures and field trips. Prerequisite: OERT 203.
OERT 105. Radiographic Physics and Equipment 3 cr.
Fundamentals of rad physics. Includes electromagnetism, x-ray production and interactions, x-ray circuitry, tubes, grids, screens, and portable units, beam restricting devices, calibration and quality assurance. Prerequisite: OERT 105 or consent of instructor.

OERT 106. Introduction to Clinical Education in Radiology 6 cr. (40P)
Introduction to basic policies and procedures in clinical settings. Restricted to majors. Prerequisite: OERT 102.

OERT 110. Radiographic Pathology 1 cr.
Overview of pathology demonstrated by radiographic procedures. Prerequisite: OERT 154. Restricted to majors.

OERT 154. Radiographic Anatomy and Physiology 3 cr.
Basic AP for radiographic application. Includes a systems approach to body structures and organs as they relate to anatomical projections, radiographic identification, and various imaging modalities. Prerequisite: OERT 153 or BIOL 154 or consent of instructor. Restricted to majors.

OERT 155. Special Topics 1-6 cr.
Specific subjects to be announced in the Schedule of Classes. Prerequisite: OERT 154. Restricted to majors.

OERT 200. Radiation Biology and Protection 1 cr.
Biological effects of ionizing radiation on cells and tissues. Includes radiation measurements, policies and protection measures for self, patients, and others. Prerequisite: OERT 105. Restricted to majors.

OERT 201. Clinical Education I 6 cr. (40P)
Supervised practice in a radiology department under direct supervision of a registered technician. Includes film critiques. Community Colleges Only. Restricted to Majors. Prerequisite: OERT 106.

OERT 202. Clinical Education II 11 cr. (33P)
Continuation of OERT 201. Student will work under indirect supervision of registered personnel. Community Colleges Only. Restricted to Majors. Prerequisite: OERT 201.

OERT 203. Clinical Education III 10 cr. (34P)
Continuation of OERT 202. Prerequisite: OERT 202. Restricted to majors.

OERT 205. Radiographic Image Critique 1 cr.
Review of radiographs produced in clinical settings to evaluate anatomy and technical issues. Prerequisite: OERT 201. Restricted to majors.

OERT 206. Applied Radiographic Procedures 2 cr. (1-3P)
Advanced course which integrates the principles and techniques of radiologic technology. Prerequisite: OERT 202. Restricted to majors.

OETS-TECHNICAL STUDIES

OETS 100. Industrial/Construction Safety 2 cr.
Covers safety issues such as PPE, BBP, ladder safety, RTK, HazCom, MSDS and information about safety organizations such as OSHA, NIOSH, NFPA, National Safety Council. Community Colleges only.

OETS 104. Basic Mathematics for Technicians 4 cr.
Fundamental mathematical concepts and computations including measurement, ratio and proportions, and pre-algebra as it relates to technical programs. Prerequisite: appropriate placement test score.

OETS 118. Mathematics for Technicians 3 cr. (2-2P)
Analysis and problem solving of technical problems using measuring instruments and techniques of arithmetic, algebra, geometry, and trigonometry. Prerequisite: CCDM 104N or appropriate placement test score.

OETS 220. Technical Management 4 cr.
Study of ethics, codes, regulations, scheduling, policy and procedures. Employee supervision and effective communication techniques. Community Colleges only.

OETS 255. Special Topics Technical Studies 1-6 cr.
Topics to be announced in the Schedule of Classes. Prerequisite: consent of instructor. May be repeated for a maximum of 12 credits.

OEV- VISUAL COMMUNICATION

OEV 100. Introduction to Visual Communications 3 cr. (2+4P)
Introduction to visual communication principles. Examination of communication principles in various media including print, web, multimedia, and video.

OEV 160. Computer-Based Illustration 3 cr. (2-4P)
Introduction to computer-based vector drawing. Study of basic concepts, tools, and techniques of working with Adobe Illustrator. Prerequisites: ART 150 and ART 155 or consent of instructor.

OEV 161. Digital Imaging I 3 cr. (2-4P)
Study and implementation of the basic concepts, tools, and techniques of working with Adobe Photoshop to create effective visual communication. Inputting, correcting, retouching, image manipulation, and output.

OEV 163. Desktop Publishing 3 cr. (2-4P)
Introduction to desktop publishing. Combining images, graphics, and text, using industry standard desktop publishing software to create effective communication imagery. Prerequisites: OEV 160 and OEV 161 or consent of instructor.

OEV 165. Web-Page Design I 3 cr. (2-4P)
Introduction to web-page design. Emphasis on creation of creative, user-friendly sites to communicate the desired image. Introduction to HTML, Flash, and Java. Prerequisite: OEV 161 or consent of instructor.

OEV 170. Digital Video Production 3 cr. (2-4P)
Introduction to digital filmmaking. Study of proper scripting and production techniques and principles. Working with multiple DV inputs and creating movies for CD, DVD, and Web. Prerequisite: OEV 161 or consent of instructor.
OEWT 101. Fundamentals of Welding 3 cr.
Set-up and adjustment of ARC and oxyacetylene equipment. Welding safety procedures and terminology. Skill development in laying weld beads with various patterns, positions, and processes.

OEWT 102. Welding Fundamentals 3 cr. (2-2P)
Survey of welding and cutting processes for nonmajors. Classroom instruction and laboratory work with OFC/OFW, SAW, GMAW, FCAW, and plasma arc cutting.

OEWT 105. Introduction to Welding 3 cr.
Welding practices, procedures, and terminology. Welding safety, equipment types, electrode types in usage, joint design and testing procedures.

OEWT 110. Blueprint Reading (Welding) 3 cr.
Interpretation of prints related to welding. Emphasis on AWS standard symbols for welding, brazing, and nondestructive examination.

OEWT 115. Structural Welding II 6 cr. (3-6P)
Continuation of OEWT 100. Emphasis on AWS entry and advanced level welder skills with SAW, including all-position welding with mild and stainless steel electrodes. Plasma arc and air-carbon arc cutting, metalurgy, heat treatment, and weld defects. Prerequisite: OEWT 100.

OEWT 118. Technical Math for Welders 3 cr. (2-2P)
Geometry, algebra, and basic arithmetic pertaining to applications in the welding trades.

OEWT 120. Basic Metallurgy 3 cr.
Properties of ferrous and nonferrous materials. Service conditions and heat treatment of metals related to welding trade. Prerequisites: OEWT 100 or consent of instructor.

OEWT 125. Introduction to Pipe Welding 3 cr. (2-2P)
Pipe fit-up and welding techniques for pipe fittings and pipe weld joint using SAW, GMAW, and GTA welding. Out-of-position fit-up and welding of pipe. Prerequisites: OEWT 100, OEWT 130, and OEWT 140, or consent of instructor.

OEWT 126. Industrial Pipe Welding 3 cr.
Enhancement of OEWT 125. Development of more advanced pipe welding skills. Prerequisites: OEWT 110, OEWT 130 and OEWT 140. Corequisite: OEWT 125.

OEWT 130. Introduction to GMAW MIG 3 cr. (2-2P)
Development of basic skills with gas metal arc welding (MIG) in accordance with AWS entry-level welder objectives. Wire electrodes, shielding/ purge gases, and modes of metal transfer.

OEWT 140. Introduction to GTA (TIG) 3 cr. (2-2P)
Development of basic skills with gas tungsten arc welding (TIG) in accordance with AWS entry/advanced welder objectives. Welding mild steel, tungsten electrode preparation, filler wire selection, and equipment set-up.

OEWT 150. Pipe Welding II 3 cr. (2-2P)
Continuation of OEWT 125; with fillet and groove welded joints in a horizontal fixed and 45-degree fixed positions (5-F, 5-G, 6-F, 6-G). Prerequisite: OEWT 125.

OEWT 151. Industrial Pipe Welding II 3 cr.

OEWT 160. Introduction to SAW and FCAW 3 cr. (2-2P)
Submerged arc and flux-cored arc welding. Demonstrations and practice with both hand-held and machine-travel submerged arc welding (SAW). Flux-cored arc welding (FCAW) on mild steel plate and pipe.

OEWT 170. Welded Fabrication 3 cr. (1-1P)
Development of fabrication skills including basic layout, measuring, and utilization of various welding processes including out-of-position welding. Use of common shop tools. Prerequisites: OEWT 100, OEWT 110, OEWT 130, and OETS 104 or OETS 118.

OEWT 180. GTA (TIG) II 3 cr. (2-2P)
Continuation of OEWT 140. Development of more advanced GTA welding skills. Emphasis on pipe welding with mild steel, stainless steel, and aluminum. Prerequisite: OEWT 140 or consent of instructor.

OEWT 190. Welded Art 3 cr. (1-1P)
Students explore the possibilities of welded art in the form of sculpture, jewelry, furniture and as a framework to support other art media. Offered as an elective for students who wish to create art using welding. Prerequisite: OEWT 102 or consent of instructor.

OEWT 200. Structural Welding III 6 cr. (3-6P)
Continued application of weld bead patterns and structural welded joints.
OEWU 190. Water and Wastewater Microbiology 3 cr.
Overview of microorganisms associated with water and wastewater. Growth and reproduction, energy production, and methods of counting. Prerequisite: OEWU 130, OEWU 180, or consent of instructor.

OEWU 191. Biological Treatment Control Testing 4 cr. (1+6P)
Covers sampling, testing, and laboratory management involved in municipal wastewater treatment plants. Prerequisites: OEWU 190 and OEWU 192.

OEWU 192. Water and Wastewater Microbiological Analysis 1 cr. (3P)
Introduction to water and wastewater treatment operational tests such as BODs, solids testing, activated sludge control tests, use of microscope, and bacteriological techniques. Prerequisites: OEWU 130 and OEWU 182, or consent of instructor.

OEWU 200. Cooperative Experience 3-5 cr.
on-the-job training/work experience with municipalities or industries, working in water or wastewater treatment plants, high purity water plants, industrial waste plants, distribution systems, or wastewater collection systems. Prerequisite: consent of instructor. May be repeated for a maximum of 5 credits. Graded S/U.

OEWU 220. Water Treatment Systems 3 cr.
Theory of water systems operation including surface water treatment, fluoride, sodium zeolite softening, corrosion control, iron removal, various filtration methods, and overview of SDWA. Prerequisites: OEWU 180 and OEWU 182 or consent of instructor.

OEWU 222. Water Systems Operation 1 cr. (3P)
Operations of various water treatment systems including surface water treatment, sodium zeolite softeners, and various filtration methods. Prerequisite: OEWU 220 or consent of instructor.

OEWU 230. Advanced Wastewater Treatment 4 cr.
Calculations and operations involved in wastewater and water reclamation plants. Prerequisites: OEWU 140, OEWU 190, and OEWU 192 or consent of instructor.

OEWU 232. Wastewater Systems Operations 1 cr. (3P)
Operation of pretreatment, primary, and biological treatment units. Prerequisite: OEWU 230 or consent of instructor.

OEWU 240. Advanced Water and Wastewater Math II 3 cr. (2+2P)
Advanced water and wastewater mathematics. Flow measurement, systems head and pump curves. Prerequisites: OEWU 140.

OEWU 250. Municipal Systems Management 4 cr.
Management of water utility systems including laws, finance, records, and safety. Prerequisites: OEWU 120, OEWU 130.

OEWU 255. Special Individualized Problems in Water Technology 1-4 cr.
Individual studies in areas directly related to water technology. Prerequisite: consent of instructor.

OEWU 257. Industrial Pretreatment 3 cr.
Industrial pretreatment regulations, program development and implementation, including correspondence, surveys and inspections. Overview of industrial wastewater treatment. Prerequisites: OEWU 120, OEWU 130.

OEWU 270. Special Topics 1-4 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

OEWU 275. Certification Review 3 cr.
Review of water and wastewater plant operations and laws in preparation for state certification exams. Prerequisites: OEWU 220, OEWU 229, OEWU 240, OEWU 255.

OEWU 285. High Purity Water Treatment Systems 3 cr.
Principles of high purity water production including microfiltration, ultrafiltration, reverse osmosis, and deionization. Prerequisite: OEWU 220.

Operations of high purity water systems including ultrafiltration, reverse osmosis and deionization. Prerequisite: OEWU 220. Corequisite: OEWU 285.

OEWU 287. Advanced Water Chemistry Analysis 3 cr. (6P)
Sampling techniques, analysis, and evaluation of potable water contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods. Prerequisite: OEWU 285 or consent of instructor.

OEWU 290. Advanced Wastewater Microbiology and Chemistry 3 cr.
Covers NPDES permits and DMR calculations and reporting; SO3 sludge regs, including pathogen and vector attraction reduction and pollutants; wetlands, composting, and wastewater treatment ponds microbiology; activated sludge bulking and foaming microbiology and treatment; and use of selector to remove nutrients and prevent the growth of filamentous bacteria. Prerequisite: OEWU 190, OEWU 192.

OEWU 292. Advanced Wastewater Analysis 3 cr. (6P)
Covers sampling techniques, analysis, and evaluation of wastewater contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods. Prerequisite: OEWU 190 and OEWU 192.

P E 100. Fly Fishing 1 cr.
An introduction to the sport of fly fishing. Following basic instruction a trip to an appropriate fishing venue will be required.

P E 102. Beginning Weight Training 1 cr.
Introduction to basic principles and techniques of weight training.

P E 103. Beginning Weight Training for Women 1 cr.
Introduction to basic principles and techniques of weight training as related to women.

P E 104. Military Physical Fitness 1 cr.
Directed physical fitness activities designed to develop and maintain muscular strength/endurance, cardiopulmonary efficiency, flexibility, and coordination required for leadership roles after graduation.

P E 106. Beginning Hapkido 1 cr.
Introductory course in Korean throwing, falling, pressure point and joint locking techniques. Movements are powerful yet suitable for people of any fitness level.

P E 108. Inline Hockey Fundamentals 1 cr.
The fundamentals of inline hockey will be taught through a series of instructional drills, including various skating techniques (forward, backward, stop-over), ball/puck handling, shooting, and passing. The playing rules of the game (as regulated by USA Hockey Inline) will also be taught. Students will be evaluated on participation, a cumulative skills mastery test, and a written final exam.

P E 109. Pilates 1 cr.
Designed exercise program involves the entire body while focusing on strengthening the core muscles of the torso. Exercises promote coordination, balance, and strength.

P E 110. Sports Conditioning 1 cr.
Sport specific conditioning using aerobic and resistive overload training. Prerequisite: consent of instructor. May be repeated for a maximum of 4 credits.

P E 112. Beginning Volleyball for Men 1 cr.

P E 113. Beginning Volleyball for Women 1 cr.

P E 114. Basketball for Women 1 cr.

P E 115. Basketball for Men 1 cr.

P E 116. Beginning Soccer 1 cr.
Program development and implementation, including correspondence, surveys and inspections. Overview of industrial wastewater treatment. Prerequisites: OEWU 120, OEWU 130.

P E 117. Beginning Soccer 1 cr.
Introduction to the basic techniques and skills of soccer.

P E 121. Cardio-Kickboxing 1 cr.
Activities that mimic punches, blocks, and kicks which have been modified to serve the purpose of providing a cardiovascular workout.

P E 122. Aerobic Dance 1 cr.
Designed to increase knowledge of the human body’s responses to exercise, enhance the level of muscular development, and cardiovascular endurance with the use of music.

P E 123. Step Aerobics 1 cr.
Designed to increase knowledge of the human body’s responses to exercise, enhance the level of muscular development, and cardiovascular endurance with the use of music and steps.

P E 130. Beginning Swimming 1 cr.

P E 131. Aqua Aerobics 1 cr.
Designed to increase knowledge of the human body’s responses to exercise, enhance the level of muscular development, and cardiovascular endurance through exercise in water.

P E 132. Aquatics Fitness 1 cr.
Development of fitness through participation in aquatics activities. Prerequisite: ability to swim 200 yards.

P E 133. Water Polo 1 cr.
Fundamentals and team play for men and women. May be repeated one time. Prerequisite: P E 130 or ability to swim 200 yards.
P E 208. Intermediate Pilates  
Intermediate training and skill techniques in Pilates. Prerequisite(s): PE 109 or consent of instructor.

P E 210. Orienteering  
Same as GEOG 210.

P E 212. Intermediate Volleyball-Men  
Prerequisite: P E 112 or consent of department head.

P E 213. Intermediate Volleyball-Women  
Prerequisite: P E 113 or consent of department head.

P E 215. Intermediate Walking  
A continuation of basic fitness knowledge techniques and training methods of fitness walking are practiced and refined. Prerequisite: P E 205 or consent of department head.

P E 216. Advanced Walking  
Advanced walking fitness and training techniques are presented, practiced, and refined.

P E 224. Intermediate Jazz  
Prerequisite: P E 124 or consent of instructor.

P E 228. Intermediate Aerobic Dance  
1 cr.

P E 229. Intermediate Step Aerobics  
1 cr.

P E 230. Intermediate Swimming  
1 cr.

P E 234. Water Safety Instructor  
2 cr.

P E 237. Advanced Walking  
Advanced walking fitness and training techniques are presented, practiced, and refined.

P E 250. Intermediate Golf  
Prerequisite: P E 150 or consent of department head.

P E 255. Intermediate Judo  
1 cr. (2P)

P E 263. Outdoor Recreation Skills  
1 cr.

P E 264. Intermediate Cycling  
1 cr.

P E 270. Special Topics  
1-3 cr.

P E 276. Intermediate Aqua Aerobics  
1 cr.
PE 298. Intermediate Yoga 1 cr.
Intermediate training and skill techniques in Yoga. Prerequisite(s): PE 199 or consent of instructor.

PE 310. Advanced Weight Training: Theory and Practice 3 cr.
For men and women who wish to continue weight training and learn principles of strength training.

PE 336. Scuba Diving 2 cr.
Prerequisites: 1/4 mile continuous swim, 20-minute survival float, 75-foot underwater swim, and towing a person 100 yards. Medical exam required.

PE 401. Advanced Scuba Diving 2 cr. (1+3P)
Provides divers a structured means to explore special diving interests and gain dive experience. Allows student divers to customize their training path and learn various underwater tasks that broaden their awareness of the environment and their capabilities as divers. Prerequisite: PADI Open Water Certification or consent of instructor. Must pass a basic diving skills and knowledge assessment. Medical exam required.

PE- P. PROFESSIONAL PHYSICAL EDUCATION

PE 185. Introduction and Foundations 3 cr.
Historical and cultural foundations and vocational, scientific, and educational data on careers in health education, physical education, and recreation. Restricted to: Main campus only.

PE 195. Theory and Technique of Athletics 1 cr.
Knowledge and skills related to fundamental motor skills, tumbling, track, and field.

PE 208. Fitness for Health and Sport 3 cr.
A study of the fitness needs for health enhancement and sport participation. Restricted to: Main campus only.

PE 210. Theory and Technique of Aquatics 2 cr.
Introduction to fundamental aquatics knowledge and skills. Prerequisite(s): Ability to swim 100 yards.

PE 213. Practicum 1-2 cr.
Directed leadership learning activities for careers in educational, governmental, social, and commercial agencies. Prerequisites: PE 298 required for coaching-related practicum. Maximum of 2 credits per semester and a total of 4 credits.

PE 216. Individual Activities 2 cr.
Knowledge and skills related to the individual activities of track and field, aerobics, and weight training with emphasis on developmental strategies and skill performance that influence pedagogical content knowledge. Administrative issues will be addressed.

PE 217. Dance and Movement 1 cr. (2P)
Knowledge and skills related to dance movement, with emphasis on the analysis of dance elements, its role in movement education, the arts, and in cultural and multicultural areas.

PE 218. Outdoor Activities 1 cr. (2P)
Knowledge, skill, techniques, policies and procedures related to selected outdoor recreation activities. Class utilizes lectures, small group activities, and outdoor field experiences for an introduction to outdoor recreation activities.

PE 280. Perceptual Motor Development 3 cr.
Designed primarily for early childhood workers in day care centers, nursery and Head Start programs. Focus upon perceptual development in the young child, sequential skill progression, assessment, remediation activities through lab involvement.

PE 281. Theory and Technique of Fundamental Motor Skills 1 cr.
Knowledge and skills related to fundamental motor skills with emphasis on the developmental, kinesiological, and psychological foundations of fundamental motor skill performance.

Physiological benefits of exercise programs, types of programs, fitness evaluation techniques, and fitness leadership skills.

PE 286. Wellness and Lifestyle Choices 3 cr.
A multidisciplinary study in personal decision-making (choices) as it relates to wellness. Issues in fitness, nutrition, and stress will be discussed. Same as HL S 286.

PE 295. A Survey of Physical Growth 2 cr.
Physical growth from conception to maturity with attention directed to the implications of these growth factors for physical education.

PE 296. Theory of Coaching I 3 cr.
Focus on areas of academic theory associated with coaching athletics. Orientation: theoretical and practical application.

PE 300. Coaching Football 2 cr. (1+2P)
Emphasis on the technical and ethical aspects of coaching football. Prerequisite: junior standing.

PE 301. Coaching Basketball 2 cr. (1+2P)
Emphasis on the technical and ethical aspects of coaching basketball. Prerequisite: junior standing.

PE 302. Coaching Baseball 2 cr. (1+2P)
Emphasis on the technical and ethical aspects of coaching baseball. Prerequisite: junior standing.

PE 303. Dance Production and Workshop 3 cr.
Covers basic principles of theater work and its relationship to dance. Lighting, set design, costume construction, music, and publicity will be utilized in an actual performance setting. Prerequisite: consent of instructor.

PE 304. Psychology of Sport 3 cr.
Development of coaching techniques to enhance sport performance based on understanding and use of psychological principles.

PE 305. Coaching Volleyball 2 cr. (1+2P)
Volleyball coaching emphasizing the technical and ethical aspects. Prerequisite: junior standing.

PE 306. Coaching Softball 2 cr. (1+2P)
Covers the technical and ethical aspects of softball coaching. Prerequisite: junior standing.

PE 307. Coaching Soccer 2 cr. (1+2P)
Covers the technical and ethical aspects of soccer coaching. Prerequisite: junior standing.

PE 308. Intramural Sports Program 2 cr.
Organization and administration of the intramural sports program at the public school and collegiate levels. Prerequisite: senior standing.

PE 310. Wilderness First Responder 2 cr.
This course is a medical training course for outdoor leaders and all those who visit back country areas. Certification examination fees are the responsibility of the student. Prerequisite: consent of instructor.

PE 311. Organization and Administration 3 cr.
Organization and administration of physical education programs at the public school and collegiate levels. Prerequisites: PE P 185 or consent of instructor.

PE 313. Practicum 1-2 cr.
Directed leadership learning experiences for careers in educational, governmental, social and commercial agencies. A maximum of 2 credits during any one semester and a grand total of 4 credits. Prerequisites: sophomore standing and consent of instructor; PE P 256 required for coaching related practicum.

PE 315. Elementary School Physical Education 3 cr. (2-2P)
Methods for teaching physical education at the elementary level. Primary focus on creating a learning environment for the acquisition and enhancement of developmentally appropriate locomotor, manipulative, and non-nanipulative skills. Field experience included. Restricted to majors.

PE 316. Administration of Recreation Programs 3 cr.
Basic principles of organization and management of comprehensive leisure services programs. The course will analyze both real and imagined recreation programs.

PE 317. Outdoor Recreation Leadership 3 cr.
A study of leadership as it pertains to recreation. This course teaches students to develop as recreation leaders by providing a theoretical framework of outdoor leadership and experiential learning as recreation leaders. Emphasis placed on appropriate theories and techniques for addressing the needs and variety of clientele in an outdoor setting.

PE 318. Lifetime Activities I 2 cr.
Knowledge and skills related to the lifetime activities of tennis, racquetball, handball, and golf. Emphasis on learning progression for these sports.

PE 319. Lifetime Activities II 2 cr.
Knowledge and skills related to the lifetime activities of swimming, weight training, and other fitness promoting activities with emphasis on learning progressions.

PE 320. Human Stress Management 3 cr.
Covers the physiology of stress, stress related disease processes, and stress reduction through exercise and coping behaviors. Same as HL S 320.

PE 321. Team Sports I 2 cr.
Knowledge and skills related to the team sports of flag football, soccer, and softball with emphasis on developmental strategies and skill performance that influences pedagogical content knowledge. Administrative issues will be addressed.
PE P 322. Team Sports II 2 cr.
Knowledge and skills related to the team sports of basketball, volleyball, and handball with emphasis on developmental strategies and skill performance that influence pedagogical content knowledge. Administrative issues will be addressed.

PE P 323. Racquet Sports 2 cr.
Knowledge and skills related to the racquet sports of tennis, badminton, and pickleball with emphasis on developmental strategies and skill performance that influence pedagogical content knowledge. Administrative issues will be addressed.

PE P 341. Motor Development 3 cr.
Covers development of motor skills from infancy through maturity. Focus on the principles of motor development, early motor behavior, stage theory, and assessment. Field experiences will augment lecture and readings.

PE P 342. Motor Learning 3 cr.
An examination of the theoretical foundations and related literature that underlie the learning, performing, and retention of motor skills with implications for effective teaching and coaching.

PE P 346. Personal Training 3 cr.
Combines the theoretical aspects of personal training and associated practical experiences which prepare students to sit for personal training certification by the National Council on Strength and Fitness.

PE P 363. Theory and Technique of Lifelong Outdoor Leisure Activities 2 cr.
Knowledge and skills related to lifelong outdoor leisure activities, including the examination of environmental science and awareness, kinesiology, and fundamental motor skills.

PE P 392. Theory and Technique of Sports and Games 2 cr.
Knowledge and skills related to team sports and games, with emphasis on developmental strategies and skill performance that influence pedagogical content knowledge. Administrative issues will also be addressed.

PE P 393. Theory and Technique of Dance and Rhythms 2 cr.
Knowledge and skills related to dance and rhythms, with emphasis on the analysis of dance elements and its role in physical education.

PE P 394. Theory and Technique of Sports and Games II 2 cr.
Knowledge and skills related to individual and dual sports and games, with emphasis on developmental strategies and skill performance that influence the pedagogical content knowledge.

PE P 408. Outdoor Adventure Expedition 1 cr.
Expedition to various outdoor activity centers throughout the USA. Activities may include, rafting, canoeing, sailing, hiking, climbing, etc. Travel expenses and permit fees are the responsibility of the student. Prerequisite: Consent of Instructor.

PE P 410. Physical Education Curriculum and Assessment 3 cr.
Theoretical and practical applications for curriculum development and assessment. Provides the opportunity to develop curricula and a variety of authentic assessments in physical education settings. Consent of instructor required. Corequisite(s): PE P 466. Restricted to PE P majors.

An introduction to descriptive statistics and the interpretation of data in the solution of problems in sport and exercise related research. Prerequisite: junior or senior standing.

PE P 412. Inferential Statistics in Sport and Exercise Science 3 cr.
An upper division undergraduate course designed to teach students how to use and interpret inferential statistics using the scientific method. An understanding of sport and exercise science theory is prerequisite for students wishing to enroll in this course.

PE P 455. Adapted Physical Education 3 cr.
Selection and scope of corrective activities in posture and body mechanics, and the adaptation of movement activities for the exceptional student. Prerequisite: junior or senior standing.

PE P 456. Adapted Physical Activity for Persons with Chronic Diseases and Disabilities 3 cr.
Fundamentals of kinesiology adapted for adults with various diseases and disabilities. Focus will be on the application of exercise assessment and prescription for selected conditions. Prerequisite(s): SPM 330 or SPM 450. Restricted to: Main campus only.

PE P 465. Senior Seminar 1 cr.
Capstone course for physical education. Prerequisite: senior standing. Graded S/U.

PE P 466. Methods of Teaching Secondary Physical Education 3 cr.
Focus on structuring the learning environment to encourage lifelong health-related physical activity. Includes enhancing critical thinking skills through physical activity. Supervised physical education field experience in a secondary school included. Prerequisite: PE P 315. Corequisite: PE P 410. Restricted to majors.

PE P 499. Problems 1-3 cr.
Problems in physical education and recreation and independent work in their solutions. A maximum of 3 credits during any one semester and a total of 6 credits. Prerequisites: senior standing and consent of instructor.

PHIL- PHILOSOPHY

PHIL 101G. The Art of Wondering 3 cr.
Introduction to some of the main problems of philosophy, with an emphasis on critical thinking. Philosophy conceived as an aid to living in this world with oneself and with others.

PHIL 136G. The Quest for God 3 cr.
An effort to understand the religious life; a consideration of some of the traditional approaches to God and what it means to be religious.

PHIL 201G. Introduction to Philosophy 3 cr.
Selected problems within the main branches of philosophy: metaphysics, theory of knowledge, ethics. Practice given in critical thinking.

PHIL 211G. Informal Logic 3 cr.
Logical analysis of ordinary language, construction of definitions, argumentation, analysis of fallacious modes of thought and basic rhetorical considerations.

PHIL 223G. Ethics 3 cr.
The philosophical explication of morality. Significant ethical systems developed in the history of Western thought.

PHIL 275. Introduction to History and Philosophy of Science 3 cr.
Introduction to the history and philosophy of science. Community Colleges only. Same as HIST 275.

PHIL 302. Business Ethics 3 cr.
An analysis of the ethical issues that arise in contemporary business life, including the obligations businesses and employees have to each other, consumers, society and the environment.

PHIL 303. Asian Philosophy 3 cr.
Survey of the main philosophies of the East; emphasis is on the basic teachings.

PHIL 305. Philosophy and Literature 3 cr.
Examination of philosophical ideas as presented in selected literary works and literary criticism.

PHIL 312. Formal Logic 3 cr.
Introduction to symbolic logic and its application in the analysis of arguments in scientific and ordinary discourse.

PHIL 313. Inductive Logic and Probability 3 cr.
A formal introduction to the methods and problems of inductive reasoning and the concept of evidence. The relationship between inductive reasoning and the probability calculus will be explored, with an emphasis on the various interpretations of probability theory.

PHIL 315. Philosophy of Language 3 cr.
A critical examination of philosophical inquiries into the syntactic, semantic, and pragmatic dimensions of language.

PHIL 316. Philosophy of Mathematics 3 cr.
Survey of traditional philosophical problems and views concerning the nature of mathematics including such questions as: What is the nature of mathematical knowledge? What is mathematical truth? What is a number? What is proof? What is the relationship between logic and mathematics?

PHIL 320. Social and Political Philosophy 3 cr.
This course critically examines such fundamental concepts as liberty, equality and human rights.

PHIL 321. Biomedical Ethics 3 cr.
Examines ethical dimensions of such issues as abortion, euthanasia, and physician-assisted suicide; informed consent as a condition of treating patients and experimenting on subjects; genetic engineering; and alternative reproductive methods, including surrogate motherhood. Also considers what implications moral theories have for these issues.

PHIL 322. Environmental Ethics 3 cr.
Explores the ethical and topical issues raised by mining and grazing, air and water pollution, factory farming, global warming, and the treatment of animals. It also studies some recent ecological movements such as ecofeminism, social ecology, and deep ecology.
PHIL 322V. Engineering Ethics 3 cr.
The moral legal responsibilities of engineers to clients, employers, the public, and the environment. Topics include criteria for judging when risk is acceptable, the duty to safeguard public health and welfare, conflicts of interest, and whistle-blowing. Prerequisite: Junior standing or higher.

PHIL 324. Cyberethics 3 cr.
Examines contemporary ethical issues related to personal and business use of computers and the Internet, including Internet governance, advertising and privacy, intellectual property rights, free speech and censorship, encryption, anonymity, and security.

PHIL 325. Topics in Feminist Philosophy 3 cr.
Philosophical treatment of issues concerning women, gender, and feminism. Topics may include social and political equality, pornography and freedom of speech, ethical issues raised by reproductive technologies, and feminist critiques of science.

PHIL 326. Philosophy and Science Fiction 3 cr.
Explores a range of philosophical problems brought to light by science fiction novels, short stories, and films.

PHIL 327. Ethics and Sports 3 cr.
Examines contemporary ethical issues related to sports, including the relationship between morally right action and that required for competitive success, strong paternalism in sports, fair play, doping, sportsmanship, and the impact of sports on society.

PHIL 328. Applied Ethics 3 cr.
Examines the implications of utilitarianism, Kantian ethics, natural law theory, and other moral theories for controversial moral issues such as the death penalty, euthanasia, abortion, genetic engineering, gay marriage, affirmative action, and pornography.

PHIL 329. Sexual Ethics 3 cr.
Examines different ethical approaches that address the question of how humans are to live as sexual beings. Explores contemporary moral issues about sexual use, rights and responsibilities, reproduction, orientation, and social policies through the lens of the various ethical perspectives.

PHIL 330. Ethics and Biomedical Research 3 cr.
Explores some ethical issues raised by biological and biomedical research. Topics include: possible abuses of genetic engineering, cloning, and genetically modified foods; experimentation on humans and informed consent; animal experimentation; honesty in research and conflicts of interest; and intellectual property.

PHIL 331. Philosophy of Religion 3 cr.
The nature, fundamental concepts, and problems of religion. Emphasis on the significance of religion for creative and practical value.

PHIL 332. Ethics and Global Poverty 3 cr.
Philosophical scrutiny of and moral reflection on various aspects of global poverty and foreign aid. For example: Is poverty fundamentally a lack of income, or can it be understood as a failure to meet basic needs, or as a lack of valuable freedom? Do human rights exist? What, if any, are the moral obligations of rich countries to poor countries? Can foreign aid be immoral? How should the answers to these questions influence public policy? Restricted to: Main campus only.

PHIL 341. Ancient Philosophy 3 cr.
Introduction to the philosophies of the pre-Socratics, Socrates, Plato, Aristotle, with brief discussion of the Epicureans and Stoics.

PHIL 342. Medieval Philosophy 3 cr.
Examination of the major figures in medieval philosophy, including Augustine, Anselm, Aquinas, Bonaventure, Duns Scotus, and Ockham.

PHIL 343. Modern Philosophy 3 cr.
Foundations of contemporary thought: introduction to the philosophies of Descartes, Bacon, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant, and Hegel.

PHIL 345. Contemporary Philosophy 3 cr.
A comparative and critical examination of some twentieth century developments in philosophy, including logical positivism, ordinary language philosophy and phenomenology.

PHIL 346. Philosophy of Mind 3 cr.
Examination of some of the most influential accounts of the mind, focusing on such issues as the relation between the mind and the body, mental causation and consciousness.

PHIL 348. Writing Philosophy 3 cr.
A workshop on writing philosophy papers. Includes how to read and understand philosophical writing, organize a paper effectively, present a clear and forceful argument, and avoid common mistakes.

PHIL 350. Epistemology 3 cr.
Introduction to epistemology. The philosophical critique of alleged ways of knowing. An examination of the nature of truth.

PHIL 351. Philosophy of Science 3 cr.
Philosophical examination of the methodology of science. The logical, metaphysical, epistemological, and ethical critique of science and its impact on human affairs.

PHIL 352. Philosophy of the Social Sciences 3 cr.
Critical examination of method in the social sciences and humanities. Topics include: explanation vs. understanding, inductive vs. deductive methods, the human vs. the natural sciences.

PHIL 361. Special Topics 3 cr.
Specific subjects announced in the Schedule of Classes. May be repeated for a maximum of 9 credits.

PHIL 363. Independent Studies 1-3 cr.
For students with some background in philosophy. Independent work in a specific area. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

PHIL 370. Aesthetics 3 cr.
Theories of the nature and value of art.

PHIL 373. Ethical Theory 3 cr.
The critical examination of the justification of ethical theories with particular attention to the language of moral discourse.

PHIL 378. Philosophy of Law 3 cr.
Ethical, logical, and epistemological implications of law, together with an analysis of the rhetoric of legal practice.

PHIL 380. Metaphysics 3 cr.
Introduction to metaphysics: a treatment of such issues as the meaning of existence, the mind-body problem, the problem of universals, and free will versus determinism.

PHIL 381. Human Nature and the Good Life 3 cr.
An examination of some of the most historically and philosophically influential conceptions of human nature and corresponding accounts of the good life.

PHIL 387. Existentialism 3 cr.
Existential thought its origins and implications, together with a historical introduction to phenomenology. Contributions from literature are discussed along with more formal philosophical material.

PHIL 413. Modal Logic 3 cr.
A formal introduction to the logic of necessity, possibility, and impossibility: the syntactic and semantic aspects of the formal modal systems T, S4, S5, as well as their philosophical implications.

PHIL 463. Independent Studies 1-3 cr.
For students with a strong background in philosophy. Independent work in a specific area. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

PHYS - PHYSICS

PHYS 110G. The Great Ideas of Physics 4 cr. (3+3P)
Conceptual, quantitative, and laboratory treatments of the great ideas and discoveries that have influenced lives and changed perceptions of nature, from Johannes Kepler’s laws of planetary motion and Isaac Newton’s and Albert Einstein’s laws of motion and gravity to the modern concepts of the quantum structure of nature and the big bang universe.

PHYS 120G. Introduction to Acoustics 4 cr. (3+2P)
Lecture, demonstration, and laboratory treatment of the general properties of waves, the production, transmission, and reception of sound waves, including musical and vocal sounds, and characteristics of the human ear and several kinds of sources.

PHYS 133. Elementary Machine Shop Techniques 1 cr. (3P)
Introduction to basic machine shop skills, including welding techniques, the use of lathes and milling machines, and tool design. Enrollment limited to physics majors.

PHYS 150. Elementary Computational Physics 3 cr. (2+2P)
Introduction to computational techniques for the solution of physics-related problems. Prerequisites: C or better in MATH 180 and MATH 121G.

PHYS 154. Questioning Time: Introduction to Special Relativity 3 cr.
An introductory course that explores Einstein’s ideas of special relativity through mathematics, simulations, and literature. Prerequisite(s): Math 120 or high school algebra II. Restricted to: Main campus only. Crosslisted with: MATH 154
PHYS 209. Physics by Inquiry I 4 cr. (3+3P)
Selected topics in physics, with emphasis on depth of understanding and development of reasoning skills essential to the scientific process. Develops scientific literacy and provides background for teaching physical science as a process of inquiry.

PHYS 210. Physics by Inquiry II 4 cr. (3+3P)
Continuation of PHYS 209. Prerequisite: PHYS 209. PHYS 211G General Physics I 3 cr.
Noncalculus treatment of mechanics, waves, sound, and heat. Knowledge of simple algebra and trigonometry is required. Prerequisite: a C or better in MATH 120 or higher.

PHYS 211G. General Physics I 3 cr.
Non-calculus treatment of mechanics, waves, sound, and heat. Knowledge of simple algebra and trigonometry is required.

PHYS 211GL General Physics I Laboratory 1 cr.
Laboratory experiments in topics associated with material presented in PHYS 211G or PHYS 221G. Students wishing to use the PHYS 211G-212G sequence to satisfy the basic natural science General Education requirement must register for either PHYS 211GL or PHYS 212SL. Corequisite: PHYS 211G or PHYS 212G. PHYS 212G. General Physics II 3 cr.
Non-calculus treatment of electricity, magnetism, and light. Prerequisite: PHYS 211G.

PHYS 212G. General Physics II 3 cr.
Non-calculus treatment of electricity, magnetism, and light. Prerequisite: PHYS 211G or equivalent.

PHYS 212GL General Physics II Laboratory 1 cr.
Laboratory experiments in topics associated with material presented in PHYS 212G or PHYS 212G. Students wishing to use the PHYS 211G-212G or PHYS 221G-222G sequence to satisfy the basic natural science General Education requirement must register for either PHYS 211GL or PHYS 212SL. Corequisite: PHYS 212G or PHYS 212SL.

PHYS 213. Mechanics 3 cr.
Newtonian mechanics. Corequisite: MATH 191G.

PHYS 213L Experimental Mechanics 1 cr. (3P)
Laboratory experiments associated with the material presented in PHYS 213. Science majors. Corequisite: PHYS 213.

PHYS 214. Electricity and Magnetism 3 cr.
Charges and matter, the electric field, Gauss' law, the electric potential, the magnetic field, Ampere's law, Faraday's law, electric circuits, alternating currents, Maxwell's equations, and electromagnetic waves. Prerequisite: PHYS 213 or PHYS 215G. Corequisite: MATH 190G.

PHYS 214L Electricity and Magnetism Laboratory 1 cr. (3P)
Laboratory experiments associated with the material presented in PHYS 214. Prerequisite: a C or better in PHYS 213L or PHYS 215GL. Corequisite: PHYS 214.

PHYS 215G. Engineering Physics I 3 cr.
Calculus-level treatment of kinematics, work and energy, particle dynamics, conservation principles, simple harmonic motion. Prerequisite: MATH 191G.

PHYS 215GL Engineering Physics I Laboratory 1 cr. (3P)
Laboratory experiments associated with the material presented in PHYS 215G. Corequisite: PHYS 215G. Students wishing to use the PHYS 215G-216G sequence to satisfy the basic natural science general education requirement must register for either PHYS 215GL or PHYS 216GL.

PHYS 216G. Engineering Physics II 3 cr.
A calculus-level treatment of topics in electricity, magnetism, and optics. Prerequisites: MATH 192G and PHYS 215G.

PHYS 216GL Engineering Physics II Laboratory 1 cr. (3P)
Laboratory experiments associated with the material presented in PHYS 216G. Prerequisite: a C or better in PHYS 213L or PHYS 215GL. Corequisite: PHYS 216G. Students wishing to use the PHYS 215G-216G sequence to satisfy the basic natural science general education requirement must register for either PHYS 215GL or PHYS 216GL.

PHYS 217. Heat, Light, and Sound 3 cr.
Calculus-level treatment of thermodynamics, geometrical and physical optics, and sound. Prerequisite: PHYS 213 or PHYS 215G.

PHYS 217L Experimental Heat, Light and Sound 1 cr. (3P)
Laboratory experiments associated with the material presented in PHYS 217. Prerequisite: a C or better in PHYS 213L or PHYS 215GL. Corequisite: PHYS 217. Science majors.

PHYS 221G. General Physics for Life Sciences I 3 cr.
This algebra-based introduction to general physics covers mechanics, waves, sound, and heat. Special emphasis is given to applications in the life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT. Prerequisites: a C or better in MATH 120 or higher.

PHYS 222G. General Physics for Life Sciences II 3 cr.
This algebra-based course covers electricity, magnetism, light, atomic physics, and radioactivity. Special emphasis is given to applications in the life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT. Prerequisite: PHYS 211G or PHYS 221G.

PHYS 223. Supplemental Instruction to PHYS 221 1 cr.
This optional workshop supplements Physics for Life Sciences I. The tutorial sessions focus on reasoning and hands-on problem solving.

PHYS 224. Supplemental Instruction to PHYS 222 1 cr.
This optional workshop is a supplement to Physics for Life Science II. The tutorial sessions focus on reasoning and hands-on problem solving. Corequisite: PHYS 222G.

PHYS 280. Independent Study 1-3 cr.
Individual analytical or laboratory studies directed by a faculty member. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

PHYS 290. Special Topics 1-3 cr.
Topics to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

PHYS 301V. Photonics 3 cr.
Introduction to photonics with applications to telecommunications, optical computing, environmental remote sensing, holography, laser surgery, and biomedical diagnostics.

PHYS 303V. Energy and Society in the New Millennium 3 cr.
Traditional and alternative sources of energy. Contemporary areas of concern such as the state of depletion of fossil fuels; nuclear energy, solar energy, and other energy sources; environmental effects; nuclear weapons; and health effects of radiation. Discussion of physical principles and impact on society. Focus on scientific questions involved in making decisions in these areas. No physics background required.

PHYS 304. Forensic Physics 4 cr. (3+3P)
Theories, laboratory, and field techniques in the area of forensic physics.

PHYS 305V. The Search for Water in the Solar System 3 cr.
Examines the formation, abundance and ubiquity of water in our Solar System stemming from comets, Martian and Lunar polar, Earth's interior and into the outer reaches of the Solar System. Topics will include nuclear synthesis, Solar System formation, remote sensing, as well as past, present and future NASA missions for water.

PHYS 315. Modern Physics 3 cr.
An introduction to relativity and quantum mechanics, with applications to atoms, molecules, solids, nuclei, and elementary particles. Prerequisites: PHYS 210G and PHYS 215G or PHYS 216G.

PHYS 315L. Experimental Modern Physics 3 cr. (1+6P)
Elementary laboratory in modern physics which supports the subject matter in PHYS 315. Required for physics majors. Prerequisite: a C or better in PHYS 214L or 216L. Corequisite: PHYS 315.

PHYS 350. Special Topics 1-3 cr.
Lectures, demonstrations, and discussions on such topics as lasers and holography, energy sources, clouds, and biophysics. May be repeated for a maximum of 12 credits under different subtitles.

PHYS 370. Geometrical Optics 4 cr. (3+3P)
Lecture/lab treating reflection, refraction, lenses, prisms, ray tracing, matrix method, stops and pupils, imaging formation, aberrations, and optical instrumentation. Prerequisite: MATH 191G. Same as E E 370.

PHYS 380. Individual Study 1-3 cr.
Individual analytical or laboratory studies directed by a faculty member. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

PHYS 400. Undergraduate Research 1-3 cr.
May be repeated for a maximum of 6 credits. Prerequisite: consent of instructor.

PHYS 450. Selected Topics 1-3 cr.
Readings, lectures or laboratory studies in selected areas of physics. May be repeated for a maximum of 12 credits.
Vector calculus, Lagrangian and Hamiltonian formulations of Newtonian mechanics. Topics include central force motion, dynamics of rockets and space vehicles, rigid body motion, noninertial reference frames, oscillating systems, relativistic mechanics, classical scattering, and fluid mechanics. Prerequisite: PHYS 213 or PHYS 215G, and MATH 291G. Corequisite: MATH 392. Main campus only.

PHYS 452. Intermediate Mechanics II 3 cr.
Continuation of topics in PHYS 451. Prerequisites: PHYS 451. Main campus only.

PHYS 454. Intermediate Modern Physics I 3 cr.
Introduction to quantum mechanics, with applications to atoms, molecules, solids, and nuclei. Topics include atomic and molecular spectra and selection rules, X-rays, quantum statistics, lasers, superconductivity, electrical conductivity, magnetism, nuclear models and reactions, radioactivity, elementary particles. Prerequisites: MATH 392 and PHYS 315.

PHYS 455. Intermediate Modern Physics II 3 cr.
Continuation of topics in PHYS 454. Prerequisites: PHYS 454. Main campus only.

PHYS 461. Intermediate Electricity and Magnetism I 3 cr.
Covers electro- and magneto-statics, dielectric and magnetic materials, DC and AC circuits, electromagnetic wave propagation, reflection, refraction, waveguides, radiating systems, interference and diffraction, Newtonian and relativistic electrodynamics, magnetohydrodynamics and plasma physics. Prerequisite: PHYS 214 or PHYS 216G or equivalent, and MATH 291G.

PHYS 462. Intermediate Electricity and Magnetism II 3 cr.
Continuation of topics in PHYS 461. Prerequisites: PHYS 461. Main campus only.

PHYS 470. Physical Optics 3 cr.
Interference and diffraction, spectroscopic instrumentation, coherence, laser and Gaussian laser beam, and elements of nonlinear optics and fiber optics. Prerequisites: PHYS 370; and PHYS 214, PHYS 216G, or PHYS 217. Same as EE 470.

PHYS 471. Modern Experimental Optics 2 cr. (6P)
Advanced laboratory experiments in optics related to the material presented in PHYS 470. Prerequisite/corequisite: PHYS 470. Same as EE 481.

PHYS 472. Non-Linear Optical and Laser Physics 3 cr.
An introduction to the physics of non-linear optical processes primarily involving the interaction of intense laser radiation with matter. Topics include elements of laser physics, harmonic generation, stimulated Rayleigh, Raman, and Brillouin scattering, self-focusing and optical phase conjugation.

PHYS 475. Advanced Physics Laboratory 0-3 cr.
Advanced undergraduate laboratory involving experiments in atomic, molecular, nuclear, and condensed-matter physics. Prerequisite: PHYS 315 and 315L.

PHYS 476. Computational Physics 3 cr.
An introduction to finite difference methods, Fourier expansions, Fourier integrals, solution of differential equations, Monte Carlo calculations, and application to advanced physics problems. Prerequisites: MATH 392.

PHYS 477. Fiber Optic Communication Systems 4 cr. (3+3P)
Fundamental characteristics of individual elements (transmitters, detectors, and fibers) of fiber optic communication systems. Design and characterization of high-speed, multichannel fiber optic communication links. Introduction to fiber optic distribution networks and components. Taught with PHYS 527. Restricted to undergraduate students. Prerequisite(s): C or better in EE 315 or PHYS 461. Restricted to: Main campus only. Crosslisted with: E 477

PHYS 478. Optical Sources, Detectors, and Radiometry 4 cr. (3+3P)
Radiometry of imaging and nonimaging optical systems, including optical fibers. Detector preamplifiers, noise, NEP, D, optical filters, and sensor system design. Laboratory included. Taught with PHYS 528. Restricted to undergraduate students. Corequisite(s): An undergraduate optics course. Restricted to: Main campus only. Crosslisted with: E E 479

PHYS 479. Lasers and Applications 4 cr. (3+3P)
Lasers, their construction, operating principles, characteristics, and applications with hands-on experience. Beam propagation in optical fibers. Laboratory included. Taught with PHYS 529. Prerequisite(s): C or better in EE 315 or in PHYS 461. Restricted to: Main campus only. Crosslisted with: E E 479

PHYS 480. Thermodynamics 3 cr.
Thermodynamics and statistical mechanics. Basic concepts of temperature, heat, entropy, equilibrium, reversible and irreversible processes. Applications to solids, liquids, and gases. Prerequisites: PHYS 217, PHYS 315 and MATH 291G.

PHYS 485. Independent Study 1-3 cr.
Individual analytical or laboratory studies directed by a faculty member. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

PHYS 489. Introduction to Modern Materials 3 cr.
Structure and mechanical, thermal, electric, and magnetic properties of materials. Modern experimental techniques for the study of material properties. Prerequisite: PHYS 315.

PHYS 490. Nuclei and Elementary Particles 3 cr.
Introduction to nuclei, nuclear reactions, and elementary particles, with applications to astronomy and astrophysics. May include nucleosynthesis, thermonuclear reactions, the major burning phases in stars, and the weak interaction in astrophysics. Prerequisites: PHYS 454.

PHYS 491. High Energy Physics I 3 cr.

PHYS 492. High Energy Physics II 3 cr.
Continuation of topics in PHYS 491. Prerequisite: PHYS 491.

PHYS 493. Experimental Nuclear Physics 3 cr. (1+6P)
Selected experimental investigations in nuclear physics such as measurement of radioactivity, absorption of radiation, nuclear spectrometry. Prerequisite: PHYS 315.

PHYS 495. Mathematical Methods of Physics I 3 cr.
Applications of mathematics to experimental and theoretical physics. Topics selected from: complex variables; special functions; numerical analysis; Fourier series and transforms, Laplace transforms. Prerequisite: MATH 392.

PHYS 496. Mathematical Methods of Physics II 3 cr.
Applications of mathematics to experimental and theoretical physics. Topics selected from: vector spaces; group theory in quantum mechanics; probability and error analysis; partial differential equations. Prerequisite: PHYS 495.

PLS 160. Legal System for the Paralegal 3 cr.
Introduction to the court system, administrative agencies, functions of law offices, and professional conduct and legal ethics.

PLS 161. Legal Terminology 3 cr.
Survey of the language of the law that will serve either as an introductory course or as a review course to prepare students for the certification test.

PLS 162. The Virtual Law Office 3 cr.
The Virtual Law Office class is a 'hands-on', project oriented course designated to provide the student with the basic law office skills needed to function successfully in a law office setting. The student will gain a practical, working knowledge of the procedures necessary to work in a law office. The skills learned in the class will directly translate to real life situations. Restricted to: Community Colleges only.

PLS 165. The American Legal System 3 cr.
A study of the American judicial system with a focus on New Mexico's judicial system; history of Anglo-American law, organization of the modern legal system, and trends in the legal profession.

PLS 170. Paralegal Student Organization 1 cr.
One-credit course for program majors with focus on various aspects of the legal assistant profession. Promotes personal growth and leadership development through community networking and service. May be repeated for a maximum of 3 credits.

PLS 180. Constitutional Law for the Paralegal 3 cr.
Case standing of the law of the Constitution and Bill of Rights with regard to day-to-day applications in the law practice. Documents dealing with constitutional problems in both civil and criminal areas of law will be drafted and discussed. Prerequisite: PL S 160.
PL S 181. Alternate Dispute Resolution 3 cr.
Survey of the various alternate methods of dispute resolution such as
negotiation, mediation, and arbitration.

PL S 190. Criminal Law for the Paralegal 3 cr.
Introduction to federal and state criminal law; criminal proceedings, pros-
cution and defense, sentencing and appeal. Prerequisite: PL S 160.

PL S 200. Legal Ethics for the Paralegal 2 cr.
Introduction to ethical dilemmas faced in the workforce and the rules of
ethics developed by the American Bar Association, various national para-
legal organizations, and the Supreme Court of New Mexico.

PL S 201. Legal Office Procedures I 3 cr. (2+2P)
Same as BOT 201.

PL S 202. Immigration Law 3 cr.
Survey of the basics of immigration law including the rights and obligations
of citizenship and the naturalization process. Prerequisite: PL S 160.

Introduction to and development of vital computer skills for the paralegal
professional. Materials and assignments are designed to illustrate com-
monly used computer applications and procedures encountered in the law
office. Prerequisites: PL S 160 and OECS 105.

PL S 205. Legal and Ethical Issues for the Web 2 cr.
Legal, ethical, copyright, and privacy issues specific to the Internet.

PL S 206. Elder Law 3 cr.
Survey of the various legal areas which impact senior citizens such as
Social Security, Medicare, Medicaid, age discrimination, estate planning,
and residential care. Prerequisite: PL S 276.

PL S 212. Legal Office Procedures II 3 cr. (2+2P)
Same as BOT 212. Prerequisite: PL S 201.

PL S 221. Cooperative Experience I 2-4 cr.
Student employed in approved work site; supervised and rated by
employer and instructor. Each credit requires specified number of hours of
on-the-job work experience. Prerequisite: PL S 274. Restricted to majors.

PL S 222. Cooperative Experience II 1-3 cr.
Continuation of PL S 221. Each credit requires specified number of hours of
on-the-job work experience. Prerequisite: PL S 221. Restricted to majors.

PL S 231. The Law of Commerce for the Paralegal 3 cr.
Law of agency, commercial paper, personal property, consumer rights.
Student will study and draft documents relevant to these fields and con-
consider their application and use in routine law practice. Prerequisite: PL S
160.

PL S 255. Special Topics 1-4 cr.
Specific subjects to be announced in the Schedule of Classes. May be
repeated for a maximum of 6 credits.

PL S 264. Real Estate Law 3 cr.
Restricted to: Community College campuses only. Crosslisted with: BMGT
264

PL S 270. Administrative Law for the Paralegal 3 cr.
A study of the substantive law, procedures, and forms involved in practice
before governmental agencies including worker’s compensation, social
security, employment security, and state and local administrations. Prereq-
usite: PL S 160.

PL S 272. Bankruptcy Law for the Paralegal 3 cr.
Individual and corporate bankruptcy; the basic principles and processes
of bankruptcy law as a system of debtor relief and debt collection. Prereq-
usite: PL S 160.

PL S 274. Legal Research and Writing for the Paralegal I 3 cr.
Legal memoranda, briefs, and pleadings will be prepared and written
based on the student’s original research. Research materials and tech-
niques will be identified and studied; introduction of computer usage in
legal research. Prerequisite: PL S 160 and ENGL 111G.

PL S 275. Tort and Insurance for the Paralegal 3 cr.
Primary legal principles of tort and insurance law and means of establish-
ing insurance plans, types of torts and insurance, as well as use of specific
forms and procedures relating to these areas. Prerequisite: PL S 160.

PL S 276. Wills, Trusts, and Probate for the Paralegal 3 cr.
Cases and statutes dealing with wills, trusts, and probate. Emphasis on
preparation and drafting of documents and the application of the law and
documents to the client s problems. Prerequisite: PL S 160.

PL S 277. Family Law for the Paralegal 3 cr.
Methods of conducting client interviews and drafting of pleadings and
research relative to families. Laws relating to marriage, divorce, custody,
support, adoption, name change, guardianship, and paternity. Prerequisite:
PL S 160.

PL S 278. Litigation for the Paralegal 3 cr.
The law of procedure and evidence will be considered through rules and
cases. Case situations will be used to identify and solve problems. Prereq-
usite: PL S 160.

PL S 279. Legal Research and Writing for the Paralegal II 3 cr.
Continuation of PL S 274. Advanced training in legal research problems
with a focus on analysis, writing, and preparation of sophisticated legal
memoranda and documents. Prerequisite: PL S 274.

PL S 280. Interviewing and Investigation for the Paralegal 3 cr.
Techniques of legal interviewing and investigation with emphasis on
development of human relations and communication skills. Prerequisite:
PL S 160.

PL S 298. Independent Study 3 cr.
Individual studies directed by consenting faculty with prior approval by
department head. Prerequisite: PL S 160. May be repeated for maximum of
6 credits. Restricted to majors.

PLAN- PLANNING

PLAN 201. Introduction to Planning and Community Development 3 cr. (2+3P)
Principles of community planning and development. Theories of planning,
community organization and application of planning techniques are also
covered.

PLAN 275. Environmental/Water Management 3 cr.
Management operation and interrelationships of the environment, includ-
ing the natural processes associated with land, water, and air.

PLAN 301. Legal Aspects of Planning 3 cr.
The legal framework of land use regulation. Current legal issues and prob-
lems in land use and housing law will be addressed. Prerequisite: PLAN
201.

PLAN 350. Soils and Land Use 3 cr. (2+2P)
Same as SOIL 350.

PLAN 351. Environmental Planning 1-3 cr.
A review of air, water, and energy systems. Emphasis on the relations of
the systems to environmental assessments, land development, and the
planning process.

PLAN 391. Special Topics 1-3 cr.
Specific subject to be announced in the Schedule of Classes. May be
repeated for a maximum of 12 credits.

PLAN 401. Internship 3-12 cr.
Provides the student with an opportunity to participate in planning activi-
ties under the supervision of a planning professional and planning faculty.
Prerequisite: PLAN 201. May be repeated for a maximum of 12 credits.

PLAN 465. Public Land Analysis 3 cr.
Description of federal and state land holdings. Analysis of how these lands
are used and planned.

PLAN 475. Transportation Planning 3 cr.
Basic concepts in transportation planning, travel-demand forecasting,
trip-distribution and modal split analysis, Transport-related land use mod-
els. Transportation technology. Strategic transport planning processes.
Consent of instructor.

PLAN 491. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be
repeated for a maximum of 12 credits.

PLAN 493. Special Problem Research 1-3 cr.
For advanced and exceptional students. Research paper in some phase of
city and/or regional planning. Maximum of 6 credits. Prerequisite: consent
of instructor.

PLAN 495. Directed Readings 1-3 cr.
Individual study through readings. A maximum of 6 credits may be earned.
Prerequisite: consent of instructor.

PORT- PORTUGESE

PORT 113. Familiarization with the Portuguese Language and Brazilian Culture 4 cr.
Portuguese listening, comprehention and vocabulary. Confidence build-
ing activities are designed to develop oral skills. This course is offered
for students doing intensive study in Brazil. Prerequisite: placement test.
Graded S/U.

PORT 213. Portuguese for Romance Language Students I 3 cr.
Introduction to the Portuguese language, Brazilian culture, and civilization.
Taught in Portuguese. Open to students with any previous Romance lan-
guage study (French, Italian, Portuguese, Romanian, Spanish).
PORT 214. Portuguese for Romance Language Students II 3 cr.
Continuation of PORT 213. Prerequisite: C or better in PORT 213 or consent of instructor.

PORT 313. Advanced Portuguese Communication 3 cr.
Exercises in written Portuguese and grammar with emphasis on written communication. Prerequisite: PORT 214 or consent of instructor.

PORT 325. Portuguese Conversation 3 cr.
Spoken Portuguese with emphasis on contemporary topics. Prerequisite: PORT 214 or consent of instructor.

PORT 361. Portuguese Studies 3 cr.
Overview of Portuguese history, geography, and contemporary issues. Prerequisite: PORT 214 or consent of instructor.

PORT 451. Special Topics in Luso-Brazilian Studies 3 cr.
Directed readings for graduate students in their specific fields to satisfy language requirements for master’s or doctoral programs. Course subtitled in Schedule of Classes. May be repeated for a maximum of 6 credits.

PSY 271. Human Relations in the Workplace 3 cr.
Introduces personality theories and supporting research. Psychoanalytic, psychological, and behavioral theories as they apply to personality are examined. Focused on normal personality functioning. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 274. A Study of Substance Abuse through Service Learning 3 cr.
Physiological and psychological impact of drug use on human behavior. Emphasizes practical applications of intervention and prevention in the community. Community Colleges only.

PSY 276. Applied Psychology 3 cr.
Explanation of the psychological principles of everyday living. Emphasizes motivation, learning of intelligent behavior, and applications of psychology to social issues. Community Colleges only.

PSY 278. Introduction to Psychology 3 cr. (3-3P)
Methods and principles of behavior. Topics include human evolution and development, biopsychology, perception, learning, thinking, motivation, social interaction, and the diagnosis and treatment of abnormal behavior. Prerequisite: PSY 201G.

PSY 302. Abnormal Psychology 3 cr.
Introduces the types, causes, and treatment of mental disorders. Descriptions and explanations of the neuroses, affective disorders and the psychoses. Case histories are also analyzed. Prerequisites: PSY 201G, MATH 201G and ENG 111G.

PSY 323. Social Psychology 3 cr.
Elements of architecture, sociology, anthropology, and urban planning. Topics include human territoriality, personal space, crowding, environmental stressors, environmental symbolism, and cognitive processes in environmental perception. Prerequisite: PSY 201G.

PSY 340. Cognitive Psychology 3 cr.
Review of research and theory in the study of human cognitive processes. Topics include information processing, pattern recognition, memory, attention, language, problem solving, decision making, and reasoning. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310.
PSY 342. Cognitive Neuroscience 3 cr.
Introduction to the study of the neural mechanisms underlying cognitive processes. Topics include relations between neural processes and attention, perception, memory, thinking and language; measuring changes in electrical activity, blood flow, and metabolism in the brain during cognition; the problem of consciousness; and evolutionary perspectives. Prerequisites: PSY 201G and PSY 310.

PSY 345. Human Factors Psychology 3 cr.
Concepts, methods and findings in the study and prediction of human performance. Emphasizes the human operator as a unified system which receives, stores, and processes information, enumerates and selects alternatives, and acts. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 350. Developmental Psychology: Conception through Childhood 3 cr.
Covers a wide range of topics concerning human psychological development from conception through childhood with special emphasis on current research and theory. Prerequisite: PSY 201G.

PSY 351. Developmental Psychology: Adolescence through Old Age 3 cr.
Covers a wide range of topics concerning human psychological development from adolescence through old age with special emphasis on current research and theory. Prerequisite: PSY 201G.

PSY 358. Individual and Group Differences 3 cr.
The influence of biological and social factors (heredity, race, sex, age, environment, social class) upon psychological variables (intelligence, aptitude, ability, achievement, personality, interests, values). Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 359. Psychology of Women 3 cr.
Examines theories and research on the psychological functioning of women in North American society. Influential theories of gender in psychology and current controversies in the psychological literature. Topics include women's development across the lifespan, women and work, women's physical and mental health and sexuality, the victimization of women, gender stereotypes, biological, social, and cultural influences on women's behavior, and gender comparisons in abilities and personality. Prerequisite: PSY 201G. Same as W S 259.

PSY 361. Language Processing 3 cr.
Information processing analysis of speech perception, reading, and psycholinguistics. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 370. Special Topics 1-3 cr.
May be taken under different subtitles announced in the Schedule of Classes for unlimited credit. Prerequisite: PSY 201G. May be repeated for a maximum of 12 credits.

PSY 372. Aviation Psychology 3 cr.
Human performance in aviation systems: cockpit (displays, controls), National Airspace System, Air Traffic Control, crew coordination, selection, training, simulation, reliability, and analytic strategies. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 374. Psychopharmacology and Toxicology 3 cr.
How and why drugs and environmental chemicals affect behavior. Prerequisites: PSY 201G, PSY 310 and PSY 311.

PSY 375. Neuroanatomy to Biopsychology 3 cr.
Neuroanatomy of brain and spinal cord. Neurophysiological processes concerned with learning, memory, and emotional behavior. Prerequisites: PSY 201G, PSY 310, PSY 311 and one of: STAT 251G, STAT 271G, or E ST 311 or consent of instructor.

PSY 376. Evolutionary Psychology 3 cr.
Covers behavior from a phylogenetic viewpoint. Compares theories and methods of European ethologists to American psychologists. The genetic determination of behavior and its importance for survival. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 380. Perception 4 cr. (4+4P)
Primary emphasis on vision. Topics include measurement of sensations, development of visual-motor coordination, reading, speech perception, picture perception, illusions, 3-dimensional space, and causes and consequences of visual abnormalities. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310.

PSY 382. Memory 3 cr.
Examines facets of human memory from the information processing viewpoint, including encoding, storage, and retrieval and memory-aiding techniques. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 384. Perceptual and Cognitive Development 3 cr.
Development across the lifespan in perception, memory, attention, reasoning, language and academic skills. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 400. Research 1-3 cr.
Individual research projects supervised by a department faculty member. Prerequisites: PSY 310 and consent of instructor. May be repeated for a maximum of 6 credits.

PSY 401. Directed Readings 1-3 cr.
Prerequisites: PSY 201G and consent of instructor. May be repeated for a maximum of 6 credits.

PSY 402. Field Experience 1-3 cr.
Working with preschool, juvenile delinquent, handicapped, aged, convict, or mentally ill. Approximately five hours scheduled work per week per credit. May be repeated to 6 credits. Prerequisites: 6 psychology credits and consent of instructor.

PSY 417V. Intercultural Relations 3 cr.
Exploration of cultural and subcultural differences from a psychological perspective. Emphasis on modern cultural settings. Issues may include: ethnocentrism, stereotyping, intercultural communication, culture shock, cultural differences, nonverbal behavior, conflict management, and developing intercultural interaction skills. Prerequisite: PSY 201G.

PSY 430. Human-Computer Psychology 3 cr.
Theories, methodologies, and data from psychology applicable to interface design, with an emphasis on construction and application of conceptual psychological models. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 440. History and Systems of Psychology 3 cr.
History of scientific method emphasizing outstanding methodological problems of contemporary science, especially psychology. Also covers recent history of psychology and development of schools of psychology. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 442. Thinking 3 cr.
Research and theory pertaining to human thinking and problem solving. Effective problem-solving methods and common obstacles to problem solving are analyzed. Prerequisites: PSY 201G and PSY 310.

PSY 445. Clinical Psychology 3 cr.
Basic theories in clinical psychology and techniques of psychotherapy. Prerequisites: PSY 201G, PSY 302, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 450. Senior Thesis 3 cr.
A laboratory or field research project conducted under faculty supervision. Requires written research proposal, conduct of research, data analysis, and final written report. Prerequisites: PSY 310, 6 additional psychology credits, consent of supervising faculty member, and junior or above standing. May be repeated for a maximum of 6 credits.

PSY 463. Developmental Research Methods 4 cr. (2+4P)
Includes basic skills of observation and experimentation applied to human development issues, emphasizing design, methodology, statistical analysis of data and research reporting. Includes laboratory and independent research project. Prerequisites: PSY 201G, one of PSY 205 or PSY 250, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 460. Testing and Measurement 3 cr.
Investigates theories and methods of measurement, scaling, and test construction. Topics may include reliability and validity of tests, and the use of tests for various purposes, including measurement of ability, personality assessment, and personnel selection. Prerequisites: PSY 201G, and one of: STAT 251G, STAT 271G, or E ST 311, and PSY 310 or consent of instructor.

PSY 470. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

RDG-READING
RDG 116. Reading Tutorial 1-4 cr.
Emphasis on individual needs in specific areas of vocabulary, comprehension and/or content reading.
RGSC 150. Rangeland Science Profession 1 cr.
Introduction to scientific disciplines and career opportunities in rangeland science and management.

RGSC 250. Special Topics 1-4 cr.
Specific subjects and credits announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

RGSC 294. Rangeland Resource Management 3 cr.
Stocking rate; ecology, physiology, and forage value of the important range plants; range economics, revegetation, and noxious plant control.

RGSC 294 L. Rangeland Resource Management Laboratory 1 cr. (2P)
Application and determination of management techniques for stocking rates, range sites, range improvements, and plant identification of desirable and noxious plants.

RGSC 302V. Forestry and Society 3 cr.
Global study of the development and use of forest resources for production of wood, fuel, fiber, and food products. Climatic, edaphic, cultural, and economic influences on forests of the world evaluated. Same as HORT 302V.

RGSC 307. Rangeland Grasses 3 cr. (1+4P)
Taxonomy of grasses; variations in grass spikelet structure and use of grass keys for identification.

RGSC 316. Rangeland Plants 2 cr. (1+3P)
Identification, classification, and economic importance of poisonous plants as well as introduced and native forage plants.

RGSC 317. Rangeland Communities 3 cr.
Rangeland associations and communities, their plant species composition, and ecological factors affecting management of communities. Same as GEOG 317.

RGSC 325. Rangeland Restoration Ecology 3 cr.
Ecological principles and planning processes involved in recognition of rangeland vegetation concerns, and practices for improvement. Field trip required. Prerequisite: sophomore standing or consent of instructor.

RGSC 350. Special Topics 1-4 cr.
Specific subjects and credits announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

RGSC 360. Elemental School Literacy I 3 cr. (2+2P)
Reading development, curriculum, and instruction in the elementary grades. Required of all elementary education majors as a prerequisite to student teaching. Corequisites: ECED 450, EDUC 451, and EDUC 452 (Block A courses). Same as RDG 560 with differentiated assignments for graduate students.

RGSC 361. Elementary School Literacy II 3 cr. (2+2P)
Reading development in curriculum and instruction with assessment and evaluation in the elementary grades (K-8). Prerequisite: RDG 360. Corequisites: EDUC 453, EDUC 454, and EDUC 455 (Block B courses). Same as RDG 561 with differentiated assignments for graduate students.

RGSC 402V. Forestry and Society 3 cr.
Role of range plants and animals on succession and interactions in range ecosystems. Prerequisite(s): BIOL 301.

RGSC 406. Rangeland Team Competition 1 cr.
Description and characteristics of range plants. May be repeated for a maximum of 4 credits.

RGSC 440. Rangeland Resource Ecology 3 cr.
Living and nonliving factors of the range environment, the life forms and role of range plants and animals on succession and interactions in range ecosystems. Prerequisite(s): BIOL 301.

RGSC 440 L. Rangeland Resource Ecology Lab 1 cr. (2P)

RGSC 448. Problems 1-4 cr.
Individual investigation in a specific area of range science. Maximum of 4 credits per semester and a grand total of 6 credits.

RGSC 452. Rangeland Analysis 4 cr. (2+4P)
Analysis methods used to determine structure and function of rangelands and their applications to rangeland management and assessment. Prerequisites: RGSC 294 and E ST 311.

RGSC 456. Riparian Habitat Analysis 1 cr.

RGSC 458. Livestock Behavior, Welfare and Handling 3 cr. (2+3P)
Principles of animal behavior and evaluation of management practices on animal welfare in confined and rangeland livestock operations. Low stress livestock handling techniques. Design of livestock handling facilities. Prerequisite(s): RGSC 294 or ANSC 100.

RGSC 460. Advanced Rangeland Management 4 cr. (3+3P)
Rangeland survey methods; rangeland management plans; problems of rangeland administration; cooperation in rangeland improvement programs. Prerequisites: RGSC 294, RGSC 440, and RGSC 452.

RGSC 471. International Rangeland Livestock Management 3 cr.
Same as ANSC 471.
S WK 221G. Introduction to Social Welfare  
A broad overview of current social problems and the role of social agencies and community members in addressing these problems.

S WK 251. Women’s Issues in Social Work  
Examines gender-specific social problems and their identification and resolution through the use of social agencies and community resources. Community Colleges only.

S WK 253. Case Management  
Introduction to case management for social- and human-services workers. Overview of typical duties and responsibilities of a case manager, including setting goals, performing assessments, writing progress notes, and linking clients with other resources in the community. Recommended for students considering a career in social work or human services. Prerequisites: PSY 201G and S WK 221G, Community Colleges only.

S WK 300. Social Work Practice Skills  
Introduction to generalist social work practice. Interpersonal skills, values, and ethics required in the helping relationship. Taught in a small-group format. Corequisite: S WK 311. Restricted to S WK majors.

S WK 309. Sociocultural Concepts  
Theoretical and sociohistorical perspectives on racism, sexism, ageism, heterosexism, classism, ableism, and other forms of discrimination and oppression. Cultural diversity, strengths, and Southwest border issues are examined.

S WK 310. Human Behavior and Social Systems  
Human growth and development over the life cycle, from conception through death. Study of individual's interrelationship with the major systems will be emphasized. Web-based course and part of CHSS major in Human and Community Service. Prerequisite: consent of instructor. Restricted to HCS majors.

S WK 311. Human Behavior and the Social Environment I  
Major theories of human behavior and the life span from conception to adolescence. Restricted to S WK majors.

S WK 312. Human Behavior and the Social Environment II  
Continuation of S WK 311. Major theories of human behavior and the life span from young adulthood through old age. Prerequisite(s): S WK 311. Restricted to S WK majors.

S WK 313. Social Work Practice with Individuals  
Generalist social work practice theory and skills in engagement, information gathering, assessments, planning, interventions, evaluation, and termination with individual client systems. Prerequisite: S WK 300. Restricted to S WK majors.

S WK 314. Social Work Practice with Families  
Generalist social work practice theory and skills in engagement, information gathering, assessments, planning, interventions, evaluation, and termination with multicultural family systems. Prerequisite: S WK 300. Restricted to S WK majors.

S WK 331V. Introduction to Social Policy: History  
Historical overview of the economic, political, and cultural impact on social welfare policy, institutions, and professions with international content.

S WK 352. Social Welfare Policy: Legislation  
Analysis of recent and proposed social welfare policy, in areas of poverty, welfare policy, institutions, and professions with international content. Cultural diversity, data collection, and data analysis. Prerequisite: S WK 300. Restricted to S WK majors.

S WK 362. Social Work with African-American Families  
Understanding and appreciation of the African-American family in America: emphasis on factors affecting social-work practice in contemporary African-American families.

S WK 400. Social Work Practice with Groups, Community, and Organizations  
Generalist social work practice theory and skills in engagement, information gathering, assessment, planning, interventions, evaluation, and termination with multicultural groups, organizations, and community. Prerequisites: S WK 300, S WK 313, and S WK 314. Restricted to S WK majors.

S WK 401. Field Experience I  
Supervised professional practice in a community social service agency, providing experiential instruction and learning. 240 clock hours required. Seminar required. Graded: S/U. Prerequisite(s): S WK 300, S WK 311, S WK 312, S WK 313, S WK 314, S WK 352. Restricted to S WK majors.

S WK 402. Field Experience II  
Supervised professional practice in a community social service agency, providing experiential instruction and learning. 240 clock hours required. Seminar required. Graded: S/U. Prerequisite(s): S WK 401. Restricted to S WK majors.

S WK 420. Social Welfare Policy: Administration  
Application of economic, political and cultural theories that explain human behavior in organizations. Focus: effective administration and management of agencies responsible for implementing social welfare policy. Prerequisite(s): S WK 313, S WK 314, S WK 352, S WK 400, and S WK 401. Corequisite(s): S WK 402.

S WK 443. Family and Child Welfare Practice  
Current issues and interventions in child protection, foster care, family preservation and support, family reunification, adoption and permanency planning. Cannot receive credit for SWK 443 and MSW 543.

S WK 449. Independent Study  
1-6 cr. Individual studies directed by consenting faculty with the prior approval of the department head. Prerequisite: majors or consent of instructor.

S WK 462. Social Work Practice with Black Families  
Understanding and appreciation of the Black family in America. Emphasis on factors affecting social work practices in contemporary Black families. Prerequisites: S WK 300, S WK 313, S WK 314 and S WK 400. Same as MSW 562.

S WK 463. Social Work Practice with Hispanic Families  
Theory and skills relating to social work practice with Hispanic families. Emphasis on strengthening and empowering Hispanic families to perform their caregiving roles in their own environment. Prerequisite: S WK 300, S WK 313, S WK 314 and S WK 400.

S WK 465. Practice with the Elderly  
Concepts and skills needed for effective practice with older adults, their families, and others in their support systems. Attention to subgroups on an older population, including persons of color, health-impaired individuals, grandparent caregivers, and elderly gay men and women. Taught with MSW 565. Cannot receive credit for S WK 465 and MSW 565. Prerequisite(s): S WK 300, S WK 313, S WK 314 and S WK 400.

S WK 467. Social Work Research I  
Development of knowledge and skills needed to build practice knowledge, evaluate service delivery, and be effective consumers of research knowledge. The first of a two-course sequence that covers research methods, history of research, ethics, problem formulation, research design, measurement, and instrumentation. Restricted to SWK majors.

S WK 468. Social Work Research II  
Development of knowledge and skills needed to build practice knowledge, evaluate service delivery, and be effective consumers of research knowledge. The second of a two-course sequence that covers research literature, data collection, and data analysis. Prerequisite: S WK 467. Restricted to S WK majors.

S WK 490. Family and Child Welfare Policy  
Historical review and evolution of child welfare policies, initiatives and factors that influence child welfare service. Child welfare policies and services specific to the state of New Mexico are infused throughout the course. Taught with MSW 590. Cannot receive credit for S WK 490 and MSW 590. Prerequisite(s): S WK 313, S WK 314 and S WK 400.

S WK 497. Special Topics  
1-3 cr. Specific subjects to be announced in the Schedule of Classes. May be used as a mandatory practice elective. Prerequisite: junior or above standing, majors or consent of instructor. May be repeated for unlimited credit under different subtitles.

SMET- SCIENCES, MATHEMATICS, ENGINEERING AND TECHNOLOGY

SMET 101. Introduction to Science, Mathematics, Engineering, and Technology  
3 cr. An introductory course for science, mathematics, engineering, or technology students emphasizing introduction to the disciplines, development of critical thinking and academic success skills for the technical disciplines, as well as degree planning for the major.

SMET 102. Introduction to Engineering Design  
1 cr. Fundamental concepts of engineering design developed through analysis of case studies and hands-on design projects.
SMET 102. Issues in STEM Fields for Students with Disabilities Moving from IDEA to ADA 3 cr.
Junior and senior high school students with disabilities will be introduced to the difference in services under IDEA and ADA and the essential need for self-disclosure in an environment not always aware of accommodation needs: where to register for service for students with disabilities on this campus and others; where and how to apply for financial aid; how to prepare a resume when applying for professional careers in science, technology and engineering, and math (STEM); learning interview skills; and learning how to prepare academically as a students with disabilities pursuing majors in STEM. The thrust of the course preparing for college as a student with a disability pursuing a STEM major will have integrated into it an emphasis on understanding science and the scientific inquiry; development of critical thinking, reading speaking, and listening skills; of literacy in writing; of abstract thought; of a respect for other peoples and cultures; of an ability to examine values and to develop a carefully considered values system.

SMET 201. Research for Visiting Community College Students 1 cr.
Research experience for visiting community college students. Consent of instructor required. Restricted to: Main campus only.

SMET 301. Undergraduate Research Assistantship 5 cr.
Undergraduate research experience in science, technology, engineering, and mathematics Consent of instructor required. Graded: S/U.

SOC - SOCILOGY

Please note that certain courses have as a specific requirement the consent of instructor. Courses numbered between 450 and 499 require a minimum of junior standing for enrollment.

SOC 101G. Introductory Sociology 3 cr.
Introduction to social theory, research, methods of analysis, contemporary issues in historical and cross-cultural contexts. Covers groups, deviance, inequality, family, gender, social change, and collective behavior.

SOC 201G. Contemporary Social Problems 3 cr.
Introduction to the fundamentals of social analysis through the analysis of contemporary American social problems. Emphasis on methods of analysis and cross-national comparisons showing that the social problems studied are common to all societies. Covers racism, violence, poverty, crime, health care, and substance abuse.

SOC 248. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

SOC 258. Current Issues in Marriage and Family 3 cr.
Examination of contemporary American family life, including courtship, marriage, divorce, and child rearing. Community Colleges only.

SOC 262. Issues in Death and Dying 3 cr.
Major personal and social issues related to the process of dying in our culture. Community Colleges only.

SOC 263. Human Sexuality 3 cr.
Introduction to cultural and personal aspects of human intimacy, sexuality and the life cycle, sexual variation, and sexually transmitted diseases. Community Colleges only.

SOC 269. Sexualities and Society 3 cr.
Examines various sexualities from a sociological perspective. Topics include sexual identity, intimate relationships, sexual desire, sexual behavior, the sex industry, and the politics of sexuality. Discussion of selected topics is grounded in both macro and micro sociological viewpoints. Restricted to: Main campus only.

SOC 270. Sociology of the Chicano Community I 3 cr.
Introductory overview of the Chicano/Mexican-American experience in the U.S., with an emphasis on the Southwest. Socioeconomic issues affecting Chicano culture and behavior. Topics include family, la Chicana, mental health, education and language policy, art and literature.

SOC 273. Sex and Gender 3 cr.
Analysis of changes, behaviors, and stereotypes of women and men in contemporary Western societies. Same as WS 273.

SOC 335. History of Christianity 3 cr.
Emphasizes perceptions about Jesus, the changing nature and role of the Bible, especially the new testament, interactions of religion and government, issues of faith and culture, and development of modern Christianity. Same as ANTH 335 and HIST 335.

SOC 336V. Sociology of Pop Culture 3 cr.
This course will provide students with a sociological look at creation, distribution, and effects of popular culture that have shaped, preserved, and conveyed distorted images of social class, race, gender and history to un wary consumers.

SOC 342. Sociology of New Mexico 3 cr.
Analysis of New Mexico social structure in comparative-historical perspective; cultures and population groups; inter-group relations; economy and restructuring; politics and power; border region; globalization in New Mexico; current topics. Prerequisite: SOC 101.

SOC 343. Sociological Studies of Human Time 3 cr.
Introductory course on how humans use time and how time affects social life. Topics include time in different cultures, time commodities, shift work, awareness of time, future orientation, times of human crisis and 24 hour human activity.

SOC 348. Special Topics 3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

SOC 350. Sociological Foundations 3 cr.
Focus is on becoming a sociologist including career opportunities, thinking critically about society, and conducting sociological inquiry. Emphasis is on identifying and using resources available to sociologists, communication skills for sociologists and acquisition of basic analytic techniques. Prerequisites: SOC 101G or consent of instructor.

SOC 351. Sociological Theory 3 cr.
Analysis of the main historical themes underlying contemporary sociological theory. Prerequisites: SOC 101G and SOC 251.

SOC 352. Social Research: Methods 3 cr.
An introduction to research design and data collection strategies commonly employed in the social sciences. Topics include experiments, survey research and various other quantitative and qualitative methods. Prerequisite: C S 110 and SOC 101G and SOC 251.

SOC 353. Sociological Research: Analysis 3 cr.
Elementary data analysis class emphasizing descriptive and inferential statistical techniques commonly employed in the social sciences. Topics range from one variable analysis through regression and correlation analysis of two variables. Prerequisite: SOC 251 and C S 110.

SOC 355. Contemporary Sexualities 3 cr.
Provides a forum for discussion and debate of contemporary sexualities within a sociological context. Topics include the relationship between historical context and sexualities, constructing sexualities, sexual political movements, sexual objectification and power and the intersection of race, class and gender with sexualities.

SOC 357. Gender and Society 3 cr.
Overview of issues related to gender, including how gender is constructed and reproduced in our society. Gender is examined from social psychological and institutional perspectives. Same as WS 357.

SOC 359. Sociology of the Family 3 cr.
Family patterns, dynamics, and processes in North American and other contemporary families. Emphasis on diversity.

SOC 360V. Introduction to Population Studies 3 cr.
Determinants and consequences of changes in fertility, mortality and migration patterns. Introduction to techniques of demographic analysis. Focus on U.S. and world population issues and their relation to social, cultural, and economic systems.

SOC 361V. Social Issues in the Rural Americas 3 cr.
Same as ANTH 361V.

Identification and analysis of the causes and consequences of social issues in urban environments including poverty, crime, terrorism, urban social policy, suburban flight, disinvestment, and deindustrialization. Special emphasis on global forces affecting global urban environments around the world.

SOC 365. Environmental Sociology 3 cr.
Societal responses to environmental problems including social adjust ments to natural and technological hazards, socio-cultural aspects of techn ological risk and impact assessment, and emergence of environmental social movements.
SOC 366. Society and Technology 3 cr.
Examines the social dynamics shaping technological form and utilization as well as the impacts of technology and socio-technical systems upon society. Topics include: the historical role of technology in socio-cultural evolution, technology and contemporary social change, technological risks and risk management, technology and politics, and the contradictory effects of technology in contributing to and alleviating environmental degradation.

SOC 369. The Challenge of Sustainable Development: Achievable or Not? 3 cr.
This course will examine the various controversies surrounding sustainable development based on the three components of sustainable development: social equity, environment, and economics. Efforts to achieve sustainable development and the issues involved will be examined at both the local, community level up to the global level.

SOC 371. Race and Ethnic Relations 3 cr.
Dynamics of racial prejudice and patterns of racial and ethnic interaction in the United States.

SOC 372. Sociology of Multicultural Healthcare 3 cr.
Analysis of issues related to health, illness, and health related services and professions; the role of sociology in medicine. Prerequisite: SOC 101G.

SOC 373. Aging and Society 3 cr.
Myths and realities of growing older, including theories and research on roles and image, retirement, health, social activism, quality of life, and death and dying. Same as HL S 373.

SOC 374V. Comparative Family Systems 3 cr.
A comparative analysis of family forms and characteristics in various societies. An examination of the diversity of family practices among ethnic and class groups in the United States. Same as WS 374G.

SOC 375. Social Inequality 3 cr.
Analysis of the social distinctions arising from age, sex, occupation, and ethnicity. Emphasis on indicators of social class and patterns of social mobility.

SOC 376V. Social Change 3 cr.
Explanations of autonomous and directed social change as occurring at the individual, organizational, societal, and international levels. Case studies from around the world.

SOC 381. Individual and Society 3 cr.
Ways people influence each other and the mutual interaction of the individual and society. Topics include attitudes, attitude change, conformity, liking and friendship patterns.

SOC 390. Sociology of Childhood 3 cr.
This course examines theories, methods, and empirical research in several areas of the sociology of childhood. Major themes are: (1) how social structure constrains children’s lives, (2) how children negotiate, share, and create culture, and (3) how children’s experiences vary within and across societies.

SOC 391. Crime and Society 3 cr.
Analysis of crime at the interpersonal, organizational, and social structure levels in society. Exploration of contemporary images of crime in the media. Examination of connections between race, class, gender, and crime in U.S. society.

SOC 392. Juvenile Delinquency 3 cr.
Nature, extent, and causes of juvenile delinquency; juvenile justice; modern methods of treatment; programs of prevention.

SOC 393. Youth and Society 3 cr.
Comparative historical analysis of social, economic and cultural forces affecting young people. Emphasis on organizational and institutional effects on the well being of children and young adults.

SOC 394V. Sports and Society: A Global Perspective 3 cr.
A critical examination of sports in a global context, emphasizing the social and cultural factors that shape the world of sports and the consequences of sports for societies. Course examines issues of social inequality, violence, media and corporate influence, religion and sports, and the student-athlete experience.

SOC 395. Sociology of Media and Violence 3 cr.
This course will provide a framework for understanding how violence is represented and consumed with emphasis on understanding the impact on children and adolescents.

SOC 399. New Mexico Law 3 cr.
Same as GOVT 399, C J 399, HIST 399, and JOUR 399.

SOC 401. Introduction to Sociological Practice 3 cr.
Sociological approaches to research design, implementation and dissemination. Prerequisite: senior standing or consent of instructor. Restricted to majors.

SOC 430. Social Movement Theory 3 cr.
Overview of key theories in past and present social movement research. Includes a focus on rational or spontaneous choice theories, resource mobilization, and new social movement theories. Theoretical perspectives focus on analyses of case studies including women’s movement, civil rights, and environmental movements.

SOC 448. Special Topics 3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

SOC 449. Directed Readings 1-3 cr.
Individual readings or research for either majors or nonmajors. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

SOC 449 H. Directed Readings Honors 1-3 cr.
Same as SOC 449. Additional work to be arranged. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits.

SOC 450. Qualitative Research Methods 3 cr.
This course will provide an in-depth examination of qualitative research methods, including participant observation techniques, interviewing, and content analysis. Prerequisites: SOC 352, COMM 305, GOVT 300, C J 300, PSY 310, PSY 355 or consent of instructor.

SOC 451. Advanced Quantitative Techniques 3 cr.
Advanced methods of sociological analysis are examined in detail.

SOC 452. Advanced Social Theory 3 cr.
Analysis of classical and contemporary theoretical perspectives within the discipline. Prerequisite: SOC 351.

SOC 453. Advanced Research Methods 3 cr.
Exploration of research methods, issues, and practical applications. Builds upon foundation provided by SOC 352 or other junior-level social research courses. Prerequisites: one of the following: SOC 352, COMM 305, GOVT 300, C J 300, PSY 310, PSY 355 or consent of instructor.

SOC 455. Advanced Social Research: Evaluation 3 cr.
Logic, design and ethics of evaluations including theory driven and multi-level models. Emphasis on individual, group and community level needs assessment, process and activities assessment and outcomes assessment including social impact assessment. Data collection techniques will include survey questionnaire construction, interviewing, focus groups and case studies. Measures of efficiency and effectiveness will be examined. Prerequisite: Research Methods Course.

SOC 456. Survey Research Methods 3 cr.
This course will provide an in-depth examination of survey research techniques, including telephone surveys, mail survey, internet surveys, and multi-modal techniques. The various aspects of questionnaire construction and administration of surveys will be covered. Prerequisites: COMM 305, GOVT 300, C J 300, PSY 355 or consent of instructor.

SOC 457. Gender, Science, and Technology 3 cr.
How gender, science and technology are interrelated social constructions. Science and technology are examined as social institutions. Explanations for different rates of participation based on race, class and gender are explored. Same as: WS 467.

SOC 458V. Comparative Global Family Systems 3 cr.
The study of families around the world. The comparison will include how capitalism and power differentials have affected the course of family history, gender relations, and family life today.

SOC 459. Advanced Issues in Sex and Gender 3 cr.
Comprehensive examination of current gender identity and gender stratification issues. Same as W S 459.

SOC 460. Sociology of Religion 3 cr.
Examination of religion in its social context to understand the intricate relations of religion, culture and U.S. society. Recommended preparatory courses: SOC 101G, SOC 273, SOC 376, ANTH 125G.

SOC 461. Population Trends and Analysis 3 cr.
Overview of past, present, and future population phenomena and introduction to techniques of demographic analysis.

SOC 465V. Environmental Sociology 3 cr.
Advanced examination of societal responses to environmental problems including social adjustments to natural and technological hazards, socio-cultural aspects of technological risk and impact assessment, and emergence of environmental social movements.
SOC 466. Society and Technology 3 cr.
Examines the social dynamics shaping technological form and utilization as well as the impacts of technology and socio-technical systems upon society. Topics include: the historical role of technology in socio-cultural evolution, technology and contemporary social change, technological risks and risk management, technology and politics, and the contradictory effects of technology in contributing to and alleviating environmental degradation.

SOC 467. Internship 1-6 cr.

SOC 468. Global Sexualities 3 cr.
Generates a global context to focus on sexual identity and orientation, sexual identity politics, romantic relationships, patterns of sexual behavior, sexual regulation and the impact of different cultures on individual sexualities. Taught with SOC 568. Crosslisted with: VS S 468

SOC 470. Sociology of Latinas/as in the United States 3 cr.
In-depth examination and comparative analysis of political and economic issues affecting Latina/o culture and behavior. Includes the Chicano/a and larger Latin/o movements, the border, immigration, language policies, education, religion, labor, and Latina women's issues. Recommended preparatory courses: SOC 101G, SOC 270, SOC 371, or HIST 367.

SOC 471. Advanced Race and Ethnic Relations 3 cr.
In-depth analysis of the dynamics of prejudice, discrimination, and patterns of intergroup interaction in the U.S.

SOC 472. Sociology of Medical Ethics 3 cr.
Focus on ethics as applied in health care from a sociological perspective. Includes cultural issues and the decision making process, with individual and social implications. Same as SOC 572.

SOC 474. Sociology of Organizations 3 cr.
Sociological models of formal organizations relevant to business, education, government, healthcare, military, and religion. Focus on internal organizational structure and dynamics plus the reciprocal relationship between organizations and their operating environment.

SOC 475. Advanced Social Stratification 3 cr.
Theories of stratification and current methods of stratification research. Focus on differences by ethnicity, race, class, and gender.

SOC 476. Social Institutions in Appalachia 3 cr.
Survey of social issues of Appalachia including the emergence and perpetuation of stereotypical images, the impact of the coal industry on the social environment, and consideration of religious, political, and social policy aspects.

SOC 477. Sociology of Education 3 cr.
Socio-political and economic factors that shape the structure and operation of educational institutions in modern complex societies. Socio-historical development of the school as a microcosm of society, with examples from American and other school systems.

A sociological approach to development and global system. Theories of development and underdevelopment; world poverty/inequality; Latin America, Africa, and Asia in comparative perspectives; transnational borders/U.S.-Mexico border; current topics. Same as GOVT 477.

SOC 479. Sociology Perspectives on the U.S.-Mexico Border 3 cr.
Theoretical perspectives and current research on the U.S.-Mexico Border region, including topics such as migration, identity, health, gender, and environment.

SOC 480. Diversity in Alternative Families 3 cr.
Cross-cultural examination of diversity among and within families: analysis of family diversity includes consideration of the theoretical frameworks, ideological commitments, personal experiences, and methodological approaches to examine family life.

SOC 481. Social Deviance 3 cr.
Theoretical approaches to the study of social deviance with emphasis on critical theories. Exploration of forms of deviance in society. Examination of social construction of deviance within mass media and systems of social control.

SOC 482. Advanced Individual and Society 3 cr.
Examines reciprocal relationship between individual and society. Topics include socialization, social influence and persuasion, group structure and performance, altruism, aggression, interpersonal attraction, group cohesion and conformity, and inter-group conflict.

SOC 483. Symbolic Interaction 3 cr.
Examination of the interaction of self and the social order including society as process, the negotiation of social order, identity as a social product, role taking and the situated self, the social construction of reality with an emphasis on phenomenology and ethnomethodology.

SOC 485. Sociology of Law 3 cr.
Law and informal social control in historical, cultural, and social contexts. Theoretical perspectives on law. May include service learning component emphasizing the implementation and organization of law.

SOC 486. Globalization 3 cr.
Analysis of the globalization process. Covers theories of globalization, the global economy, political globalization, global culture, transnational social movements, transnational migration and world labor market, global cities, and local-global linkages. Same as GOVT 469.

SOC 491. Criminological Theory 3 cr.
Schools of thought, contrasting approaches, and contemporary efforts in theory construction relevant to adult and juvenile offenders.

SOC 496. Internship 1-6 cr.
Supervised participation in an appropriate community setting. Prerequisite: consent of instructor. May be repeated for a maximum of 9 credits. Same as SOC 596.

SOIL - SOIL

SOIL 200. Special Topics 1-4 cr.
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree.

SOIL 252. Soils 3 cr.
Origin, classification, morphology, and physical, chemical, and biological properties of soils. Prerequisite: CHEM 111G and CHEM 112G.

SOIL 252 L. Soils Laboratory 1 cr.

SOIL 257. Introduction to Meteorology 3 cr. (2-3P)
Basic meteorological processes. Atmospheric structure and circulation, radiation, fronts, pressure systems, precipitation mechanisms, forecasting, weather maps, meteorologic instrumentation. Prerequisite: MATH 115. Same as GEOS 257 and AGRO 257.

SOIL 300. Special Topics 1-4 cr.
Specific subjects and credits announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree.

SOIL 312. Soil Management and Fertility 3 cr.
Management, conservation, and fertility of soils; physical conditions affecting growth, nutrition, and plant production. Prerequisite: SOIL 252. Corequisite: SOIL 312L.

SOIL 312 L. Soil Management and Fertility Lab 1 cr.
Hands-on experience. Includes field trips, videos, calculations, visiting lecturers and other lab activities as possible. Prerequisite: SOIL 252. Corequisite: SOIL 312.

SOIL 350. Soils and Land Use 3 cr. (2-2P)
Relationship of soils to the limitations and potentials of land use. Emphasis on soil interpretations and soils as a resource in urban, rural, and recreational development. Same as PLAN 350.

SOIL 357. Climatology 3 cr.
Elements and controls of climate. Energy and hydrologic cycles, general circulation, climate classification, distribution of climate types, microscale effects, applications. Prerequisites: MATH 120. Same as AGRO/GEOS 357.

SOIL 370. Environmental Soil Science 3 cr.
Continuation of SOIL 252 that emphasizes soil properties and processes that directly relate to environmental pollution problems. Prerequisite: SOIL 252. Same as E S 370.

SOIL 391. Internship 1-6 cr.
Professional work experience under the joint supervision of the employer and a faculty member. A written report is required. No more than 6 credits toward a degree. Consent of instructor required. Graded: S/U. Crosslisted with: HORT 391 and AGRO 391.

SOIL 424. Soil Chemistry 3 cr.
Basic elements of soil chemistry including clay mineralogy, cation and anion exchange and the chemistry of problem (acid, saline and flooded) soils. Credit not given for both SOIL 424 and SOIL 479. Prerequisites: SOIL 252L or GEOL 360, or three semesters of chemistry. Same as CHEM 424, GEOL 424.
SOIL 477. Environmental Soil Physics 3 cr.
Principles and practices required for irrigation to exist as a permanent
soil management practice. Emphasis on water balance, field and laboratory
methods for measuring soil moisture content, soil water potential, gas/air
flow and thermal transport. Demonstrations of field and laboratory
techniques for measuring moisture content, water potential, gas/air flow
and thermal conductivity. Prerequisite: SOIL 252. Concurrent enrollment
with SOIL 477 recommended. Hands on experience with techniques for
characterizing soil physical properties such as particle size distribution,
bulk density, water retention, hydraulic conductivity and solute transport.

SOIL 476 L. Soil Morphology and Classification 4 cr. (2+2P)
Terminology used to describe soils. Soil classification systems of the world
with emphasis on systems used in the United States. Theory of classifica-
tion and taxonomy as applied to soils. Prerequisite: SOIL 252. Same as
GEOL 472.

SOIL 475. Irrigation and Drainage 3 cr. (2+3P)
Principles and practices required for irrigation to exist as a permanent
soil management practice. Emphasis on water balance, field and laboratory
methods for measuring soil moisture content, soil water potential, gas/air
flow and thermal transport. Demonstrations of field and laboratory

SP M 422. Clinical Practicum V 4 cr.
Clinical experience in the collegiate athletic training setting, and general
medical clinics. Assessment of Athletic Training Education Program clin-
ic proficiencies as described by the National Athletic Trainers’ Associa-
tion Education Council. Prerequisite(s): SP M 373. Restricted to: Main
campus only.

SP M 415. Therapeutic Modalities 4 cr. (3+2P)
Study of the principles of rehabilitation exercises for the physically
active person. Prerequisite(s): SP M 410, Junior or Senior Status. Must
maintain at least 2.5 GPA. Restricted to: Main campus only. Restricted to
ATEP majors.

SP M 414. Therapeutic Modalities 4 cr. (3+2P)
The physiological effects, indications, contraindications, dosages, and
maintenance of therapeutic modalities related to the treatment of athletic
or activity-related injuries. Prerequisite(s): SP M 310, SP M 271, Junior or
Senior Status. Restricted to: Main campus only.

SP M 407. Therapeutic Exercise 3 cr.
An introduction to principles of rehabilitation exercises for the physically
active population. Prerequisite(s): SP M 271, SP M 310, Junior or Senior
status. Must maintain at least 2.5 GPA. Restricted to: Main campus only. Restricted to
ATEP majors.

SP M 406. Exercise Prescription 3 cr.
Introduction to assessment, interpretation, prescription, and programming
of fitness and exercise for healthy and special populations. Prerequisite(s):
SP M 271 and SP M 308 or consent of instructor.

SP M 405. Sports Injuries I 3 cr.
Examines normal human anatomy, mechanisms of athletic injury, and
deviation from normal anatomy following athletic injury. Must maintain at
least 2.5 GPA. Prerequisite(s): SP M 271 or consent of instructor. Restricted
to: Main campus only.

SP M 404. Sports Injuries II 3 cr.
Clinical assessment of students’ ability to evaluate injuries and illnesses
of the physically active person. Prerequisite(s): SP M 310, SP M 271, Junior or
Senior Status. Must maintain at least 2.5 GPA. Prerequisite(s): SPM 271 and
SP M 308 or consent of instructor. Restricted to: Main campus only. Restricted to
ATEP majors.

SP M 403. Sports Injuries III 3 cr.
Clinical experience in an athletic training setting. Assessment of Athletic
Training Education Program clinical proficiencies as described by the
National Athletic Trainers’ Association Education Council. Prerequisite(s):
SP M 273. Restricted to: Main campus only. Restricted to ATEP majors.

SP M 402. Clinical Practicum V 4 cr.
Clinical experience in an athletic training setting, and general
medical clinics. Assessment of Athletic Training Education Program clin-
ic proficiencies as described by the National Athletic Trainers’ Associa-
tion Education Council. Prerequisite(s): SP M 373. Restricted to: Main
campus only.
SP M 422. Clinical Practicum VI 4 cr.
Clinical experience in the collegiate athletic training setting. Assessment of Athletic Training Education Program clinical proficiencies as described by the National Athletic Trainers’ Association Education Council. Prerequisite(s): SP M 422. Restricted to: Main campus only. Restricted to ATEP majors.

SP M 424. Clinical Practicum VII 4 cr.
Clinical experience in the collegiate athletic training setting. Assessment of Athletic Training Education Program clinical proficiencies as described by the National Athletic Trainers’ Association Education Council. Prerequisite(s): SP M 423. Restricted to: Main campus only. Restricted to ATEP majors.

SP M 425. Management Strategies in Athletic Training 2 cr.
An introduction to management, leadership, financial strategies, professional development and legal issues related to the athletic training setting. Prerequisite(s): Junior or Senior status. Restricted to: Main campus only.

SP M 445. Internship 6-12 cr.
A full-time internship in an approved wellness, fitness, athletic or recreation program with experience in all phases of management and operation. Field instructor supervision. This internship may require relocation to a site outside of the Las Cruces area. Consent of instructor required. Graded: S/U. Prerequisite(s): Senior standing, GPA of 2.5, completion of all major courses. Restricted to: Main campus only.

SP M 451. Advanced Exercise Physiology 3 cr.
Detailed study of the integrated response of neuromuscular, cardiovascular, and respiratory systems to acute and chronic exercise, nutrition, and environmental conditions with a strong emphasis on laboratory experiences. Prerequisite(s): SP M 271 and SP M 308 or consent of instructor. Restricted to: Main campus only.

SP M 460. Principles of Strength and Conditioning 3 cr.
Application of research, theory, and methods of high-intensity, resistive overload training. Performance-specific topics include management, nutrition. Prerequisite(s): SPM 308.

SP M 460-L Principles of Strength and Conditioning Laboratory 1 cr. (2P)
An applied examination of the theory, principles, rules and regulations associated with various strength and conditioning exercises to include but not limited to Olympic lifting, powerlifting, bodybuilding, plyometrics, speed, agility and speed-endurance development. Lab required for Kinesiology majors. Prerequisite(s): SPM 308.

SP M 499. Topics in Athletic Training 1-3 cr.
Problems in athletic training and independent work in their solutions. Consent of instructor required. Prerequisite(s): Junior or Senior status; Consent of ATEP director. Restricted to: Main campus only.

SPAN - SPANISH

SPAN 111. Elementary Spanish I 4 cr.
Spanish for beginners. Not open to Spanish-speaking students except by consent of instructor. Prerequisite: language placement and assessment by departmental examination.

SPAN 112. Elementary Spanish II 4 cr.
Spanish for beginners. Not open to Spanish-speaking students except by consent of instructor. Prerequisite: language placement and assessment by departmental examination or C or better in SPAN 111.

SPAN 211. Intermediate Spanish I 3 cr.
Speaking, reading, and writing. Not open to Spanish-speaking students except by consent of instructor. Prerequisite: language placement and assessment by departmental examination or C or better in SPAN 112.

SPAN 212. Intermediate Spanish II 3 cr.
Speaking, reading, and writing. Not open to Spanish-speaking students except by consent of instructor. Prerequisite: language placement and assessment by departmental examination or C or better in SPAN 211.

SPAN 213. Spanish for Native Speakers I 3 cr.
Emphasis on development of native language reading skills. Covers speaking, writing and vocabulary activities to strengthen command of the language. For Spanish-speaking students only. Prerequisite: language placement and assessment by departmental examination.

SPAN 214. Spanish for Native Speakers II 3 cr.
Emphasis on reading and writing with speaking activities for skill development. Discussion of problematic areas in grammar. Prerequisite: language placement and assessment by departmental examination or C or better in SPAN 213 or consent of instructor.

SPAN 230. Spanish for Hotel, Restaurant and Tourism Managers I 3 cr.
Basic Spanish for Hotel, Restaurant and Tourism Managers. Preparation and practice of situations faced in the workplace. Fulfills language requirement for A&S majors. Does not fulfill language requirement for A&S majors. The course is taught with HRTM 450. Prerequisite(s): Recommended completion of SPAN 111 or SPAN 112, or SPAN 113. Restricted to: Main campus only. Restricted to HRTM majors.

SPAN 240. Introduction to Technical Translation for Native Spanish Speakers 3 cr.
Introduction to translation and interpretation theory and skills, English to Spanish and Spanish to English. For students who have been exposed to Spanish at home or in the community. Translations include business letters, technical handouts, health service, and legal documents. Fulfills the Arts and Sciences second language requirement. Prerequisite: SPAN 214 or placement by exam.

SPAN 250. Cultures of the Spanish-Speaking World 3 cr.
Familiarization with cultures of the Spanish-speaking world. Language variations, history, literature, fine arts, and cultural behavior of mainstream Hispanic cultures including U.S. Prerequisite: either SPAN 111, SPAN 112, or SPAN 113.

SPAN 305. Topics in Hispanic Civilization 3 cr.
Group study of selected topics focusing on Hispanic culture and civilization. Topics announced in the Schedule of Classes. May be repeated for a maximum of 6 credits. Prerequisite: SPAN 212 or SPAN 214 or consent of instructor.

SPAN 306. Special Topics 3 cr.
Group study of Spanish for specialized purposes (e.g. court interpreting, professional language for bilingual teachers; technical writing for the business community). Course subtitled in the Schedule of Classes. Prerequisite: SPAN 212 or SPAN 214 or consent of instructor. May be repeated for a maximum of 12 credits.

SPAN 312. Grammar for Native Speakers of Spanish 3 cr.
For students who have been exposed to Spanish at home or in the community. Review of grammatical concepts and analysis of both spoken and written Spanish. Students cannot receive credit for both SPAN 312 and SPAN 313. Prerequisite: SPAN 214 or consent of instructor.

SPAN 313. Spanish Grammar 3 cr.
A review of the rules of Spanish grammar. Students cannot receive credit for both SPAN 312 and SPAN 313. Prerequisite: SPAN 212 or SPAN 214 or consent of instructor.

SPAN 314. Spanish Composition 3 cr.
Development of written Spanish skills. Students cannot receive credit for both SPAN 312 and SPAN 315. Prerequisite: SPAN 312 or SPAN 313.

SPAN 315. Composition for Native Speakers of Spanish 3 cr.
Discussions of history and current political and cultural topics pertaining to the Hispanic world. Emphasis on development of writing skills in formal Spanish. Students cannot receive credit for both SPAN 314 and SPAN 315. Fulfills departmental requirement for SPAN 314. Prerequisite: SPAN 312 or SPAN 313.

SPAN 325. Advanced Conversation 3 cr.
Conversation and intensive oral practice. Not open to native Spanish speakers. Students cannot receive credit for both SPAN 325 and SPAN 327. Prerequisite: SPAN 212 or consent of instructor.

SPAN 327. Conversation for Native Speakers of Spanish 3 cr.
Study and practice of small group and presentation skills for effective business and professional interaction. Students cannot receive credit for both SPAN 325 and SPAN 327. Prerequisite: SPAN 212 or SPAN 214.

SPAN 340. Introduction to Spanish Linguistics 3 cr.
General aspects of Spanish linguistics: traditional, descriptive, historical, and dialectal. Prerequisite: SPAN 212 or SPAN 213.

SPAN 350. Introduction to Chicano Studies 3 cr.
Covers Mexican-American life, including language, history, education, politics and literature. Prerequisite: SPAN 312 or SPAN 313.

SPAN 352. Spanish in Social Contexts 3 cr.
The study of Spanish in the contexts of the societies in which it is spoken. Prerequisite: SPAN 312 or SPAN 313.

SPAN 353. Spanglish and Bilingualism in the United States 3 cr.
Covers lexical borrowing, code choice, language loss and maintenance and bilingual cognition. Prerequisite: SPAN 312 or SPAN 313.

SPAN 361. Mexican Border Culture 3 cr.
Study of major artistic and cultural trends in Spain and Spanish-America. Prerequisite: SPAN 312 or SPAN 313.
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<tr>
<th>Course Code</th>
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<tr>
<td>SPAN 362</td>
<td>Hispanic Cultures and Civilizations</td>
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<td>SPAN 363</td>
<td>US-Hispanic Culture</td>
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<td>SPAN 364</td>
<td>Culture and Civilization of Mexico</td>
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<td>SPAN 365</td>
<td>Culture and Civilization of America</td>
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<td>SPAN 366</td>
<td>Introduction to Hispanic Literature</td>
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<td>SPAN 367</td>
<td>Introduction to Chicano/US-Mexican Literature</td>
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<td>SPAN 368</td>
<td>Spanish Literature through the Seventeenth Century</td>
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<td>SPAN 369</td>
<td>Hispanic Literature: Eighteenth and Nineteenth Century</td>
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<td>Contemporary Spanish Literature</td>
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<td>SPAN 371</td>
<td>Introduction to Translation</td>
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<td>SPAN 372</td>
<td>Independent Studies in Language, Literature, or Culture</td>
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<td>SPAN 373</td>
<td>Mesoamerican Literature and Culture</td>
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<td>Creative Writing</td>
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<td>Spanish-American Poetry</td>
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<td>SPAN 376</td>
<td>Mexican Literature</td>
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<td>SPAN 377</td>
<td>Literary Translation</td>
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<td>SPAN 378</td>
<td>All genres of Spanish-American literature written by women</td>
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<td>Nineteenth Century Spanish-American Literature</td>
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SPAN 462. Spanish Phonology 3 cr.  
SPCD 103. Intensive English as a Second Language III 6-12 cr.  
SPCD 102. Int Eng - Sec Lang II 6-12 cr.  
SPAN 490. Special Topics 3 cr.  
Selected subject to be identified by subtitle in the Schedule of Classes. May be repeated for a total of 6 credits under a different subtitle.  
SPAN 491. History of the Spanish Language 3 cr.  
The development of Spanish from its origins. Prerequisite: SPAN 314 or SPAN 340.  
SPCD 402. Intensive English as a Second Language II 6-12 cr.  
SPAN 492. Structure of Spanish 3 cr.  
Topics in Spanish linguistics including phonology, morphology, syntax, and semantics. Prerequisite: SPAN 314 or SPAN 340.  
SPCD 403. Studies in U.S. and Borderland Spanish 3 cr.  
Linguistic issues of U.S. and borderland Spanish. Prerequisite: SPAN 340.  
SPCD 496. Methods for Teaching Proficiency 3 cr.  
Theories of language acquisition, second language teaching methodologies, and materials development for the classroom. Prerequisite: SPAN 340.

SPCD - SPEECH/ENGLISH AS A SECOND LANGUAGE

SPCD 101. Int Eng - Sec Lang I 6-12 cr.  
Instruction for undergraduates in speaking, reading and writing basic conversational English. Class meets 30 hours weekly. Enrollment limited to students in International Intensive English Program. Prerequisite: consent of instructor. Graded S/U.  
SPCD 102. Int Eng - Sec Lang II 6-12 cr.  
Continuation of SPCD 101. Intermediate level. Class meets 20 hours weekly. Enrollment limited to undergraduate students in the International Intensive English Program. Prerequisite: consent of instructor. Graded S/U.  
SPCD 103. Intensive English as a Second Language III 6-12 cr.  
Writing and speaking academic English. Class meets 10 hours weekly, with additional laboratory hours at the instructor's discretion. Enrollment limited to undergraduates in International Intensive English Program. Prerequisite: consent of instructor. Graded S/U.  
SPCD 105. Intensive Training in English I 3-12 cr.  
Instruction in speaking, reading, and writing elementary English as a second language. Course meets 25-30 hours weekly. The first of a series of preparatory academic English courses. Enrollment limited to Center for Intensive Training in English registrants. Prerequisite: consent of instructor. Graded S/U.  
SPCD 106. Intensive Training in English II 3-12 cr.  
Continuation of SPCD 105. Intermediate level. Class meets 25-30 hours weekly. Prerequisite: consent of instructor. Graded S/U.  
SPCD 107. Intensive Training in English III 3-12 cr.  
Advanced academic training in English. Course emphasizes formal written and speaking skills in preparation for degree work at university. Class meets 25-30 hours weekly. Enrollment limited to Center for Intensive Training in English registrants. Prerequisite: consent of instructor. Graded S/U.  
SPCD 108. Intermediate ESL Listening and Speaking 3 cr.  
Development of listening and speaking skills with attention to pronunciation. Emphasis on conversation and oral practice appropriate to an academic setting. Prerequisites: placement based on English language screening test, and either a minimum TOEFL score of 500 or consent of instructor. Graded S/U.  
SPCD 110. Intermediate ESL Composition and Grammar Review 3 cr.  
Development of fluent academic writing skills, with an emphasis on grammar review for editing purposes. Prerequisites: placement based on English language screening test, and either a minimum TOEFL score of 500 or consent of instructor. Graded S/U.  
SPCD 111G. Advanced ESL Composition 4 cr.  
Academic writing, including library research papers and the issue of plagiarism, for students with nonnative English. Prerequisites: placement based on English language screening test, and either a minimum TOEFL score of 500 or consent of instructor; or successful completion of SPCD 110. Graded S/U. (SPCD 111G is substituted for ENGL 111G for international students whose native language is not English.)  
SPCD 200. ESL Independent Study 1-12 cr.  
Independent study of English as a second language tailored to meet the specific needs of students from other countries. Prerequisite: registered in CITE program. Graded S/U.  
SPCD 401. Intensive English as a Second Language I 6-12 cr.  
Instruction in speaking, reading, and writing basic conversational English. Class meets 30 hours weekly. Enrollment limited to beginning level graduate students in the International Intensive English Program. Prerequisite: consent of instructor. Main campus only. Graded S/U.  
SPCD 402. Intensive English as a Second Language II 6-12 cr.  
Continuation of SPCD 401. Class meets 20 hours weekly. Enrollment limited to intermediate-level graduate students in the International Intensive English Program. Prerequisite: consent of instructor. Main campus only. Graded S/U.  
SPCD 403. Intensive English as a Second Language III 6-12 cr.  
Writing and speaking scientific English. Class meets 10 hours weekly, with additional laboratory hours at the instructor's discretion. Enrollment limited to advanced-level graduate students in the International Intensive English Program. Prerequisite: SPCD 402 or consent of instructor. Main campus only. Graded S/U.  
SPCD 458. Advanced Speaking and Listening for International Graduate Students 3 cr.  
Advanced speaking and listening skills for active participation at the graduate level. Emphasis on pronunciation and individual goal setting. Includes a theoretical component involving library research or preparation and presentation of a teaching unit. Prerequisites: placement and 530 TOEFL or consent of instructor. Graded S/U, RR.  
SPCD 470. Scholarly Writing for International Graduate Students 3 cr.  
Instruction and practice in writing major academic genres, including experimental, descriptive, and problem-solution research reports, proposals, and library referenced papers. Prerequisites: placement based on English language screening test or successful completion of SPCD 110; a minimum TOEFL score of 500 or consent of instructor; and successful completion of SPCD 108/490 where indicated by placement. Main campus only. Graded S/U.  
SPCD 490. Seminar Skills for Foreign Students 3 cr.  
Advanced skills required for active participation in academic discussions and oral presentations. Includes extensive video-taping which is replayed for evaluation. Prerequisite: placement based on English language screening test, and a minimum TOEFL score of 500 or consent of instructor. Main campus only.

SPED- SPECIAL EDUCATION

SPED 201. Topics 3 cr.  
Offered under various subtitles that indicate the subject matter to be covered. May be repeated 3 times for a maximum of 9 credits.  
SPED 210. Introduction to Special Education 3 cr.  
For paraprofessional students who will be working with a teacher in a Special Education classroom. This class will provide an overview of characteristics of children with special needs, legal issues, framework of effective instruction and a variety of practical teaching and learning strategies that are relevant to the tasks and academic demands required in inclusive classrooms.  
SPED 302. Internship III 3 cr.  
Student teaching in public school classroom according to major area of interest. Prerequisite: must be a cooperative education student. Graded S/U.  
SPED 350. Introduction to Special Education in a Diverse Society 3 cr.  
Characteristics, identification, and educational needs of exceptional learners. Attention is given to the various types of programs serving exceptional learners. Designed for all professional personnel who work with exceptional learners.  
SPED 355. Introduction to Bilingual/Multicultural Special Education 3 cr.  
Introduction to issues related to the provision of services to culturally and linguistically diverse students with exceptionalities. Same as BIL 355.
SPED 360. Elementary Curriculum, Methods, and Materials for Special Education in a Diverse Society 3 cr. Curriculum theory and development for special education programs. Various teaching methods utilized with elementary exceptional learners and techniques involved in identifying, adapting, and developing materials will be addressed.

SPED 395. Special Topics 1-3 cr. Each course will be identified by a qualifying subtitle. A maximum of 3 credits in any one semester and a grand total of 6 credits.

SPED 406. High Incidence Disabilities in a Diverse Society 3 cr. Examines those areas of disability that most frequently occur in the special education population, including mental retardation, learning disabilities, communication disorders, and behavioral and emotional disorders.

SPED 407. Low Incidence Disabilities in a Diverse Society 3 cr. Examines those disabilities that occur less frequently in the special education population, including hearing loss, visual disorders, autism, and other severe manifestations.

SPED 409. Reading for Elementary Exceptional Learners in a Diverse Society, K-6 3 cr. Emphasizes reading diagnosis and materials for students with special developmental and learning problems. Taught with SPED 509.

SPED 411. Reading for Elementary Exceptional Learners in a Diverse Society, 7-12 3 cr. Extends information covered in SPED 509, which covers grades K-6. Strategies and materials are addressed.

SPED 415. Working with Families of Exceptional Learners in a Diverse Society 3 cr. Methods and techniques for educators and other professionals in parent/professional relationships.


SPED 425. Language Development for Deaf & Hard of Hearing Students 3 cr. Developmental approach to language learning for individuals with hearing impairments including linguistic and cognitive potential, assessment and intervention strategies, and reading language. Taught with SPED 525 and SPED 623 with differentiated assignments.

SPED 426. Teaching Content Subjects to Preschool-Twelfth Grade for Deaf and Hard of Hearing Students 3 cr. Curriculum and instructional procedures common to education of hearing impaired including reading, adaptations to regular curriculum, methods for planning, implementing, and translating diagnostic information into programming. Taught with SPED 526 and SPED 626 with differentiated assignments.


SPED 450. Working with Young Children with Special Needs, Ages 3-8 3 cr. Addresses competencies for working with young children with exceptionalities, ages three-eight, and their families. Public school, private school, Head Start and other models are included. Same as SPED 550 with differentiated assignments for graduate students.

SPED 451. Assessment of Young Children, Birth-Eight 3 cr. Covers instruments and procedures for assessing young children and their families in order to determine atypical development. Screening, diagnosis, program planning, placement and evaluation issues are covered. Prerequisite: SPED 450. Same as SPED 551.

SPED 452. Foundations of Visual Impairment 3 cr. Provides the history and theory of teaching students with visual impairments and multiple disabilities. An overview of educational, historical, and psychosocial effects of visual impairments on the individual and adaptation with a visual impairment will be covered. Taught with SPED 532 and SPED 632 with differentiated assignments. Consent of instructor required.

SPED 453. Anatomy and Functions of the Visual System 3 cr. This course will cover the structure and function of the eye and associated diseases and how vision is affected. Appropriate educational recommendations and functional vision assessment techniques will be emphasized. Taught with SPED 533 and SPED 633 with differentiated assignments. Consent of instructor required. Prerequisite(s): SPED 452 or consent of instructor.

SPED 454. Visual Impairment with Multisensory Impairments 3 cr. This course is an overview of education services for the student with visual impairments and multiple sensory impairments. Emphasis is on curricula, communication, behavior management, inclusion, transition, and independent living. Taught with SPED 534 and SPED 634 with Differentiated assignments. Consent of instructor required. Prerequisite(s): SPED 452 or SPED 532 or SPED 632 or consent of instructor.

SPED 455. Braille I: Literacy Skills for Students with Visual Impairments 3 cr. This course will cover the uncontracted and contracted literary braille code and methods of teaching braille to tactile readers. Taught with SPED 536 and SPED 636 with differentiated assignments Consent of instructor required. Prerequisite(s): SPED 452 or SPED 453 or consent of instructor.

SPED 457. Braille II: Literacy Skills for Students with Visual Impairments 3 cr. This course will cover the Nemeth braille code for mathematics, the abacus, the use of technology for braille, foreign language, music and braille translation programs. Taught with SPED 538 and SPED 638 with differentiated assignments. Consent of instructor required. Prerequisite(s): SPED 455 or SPED 536 or SPED 638 or Consent of Instructor.

SPED 458. Intellectual Disabilities in a Diverse Society: An Introduction 3 cr. Dealing with history, philosophy, goals and objectives, classification, characteristics of intellectual disabilities. Taught with SPED 539 and SPED 658 with differentiated assignments. Consent of instructor required. Prerequisite(s): SPED 350 or SPED 500 or consent of instructor. Restricted to SPED majors.


SPED 460. Instructional Strategies of Teaching Visually Impaired 3 cr. This course covers assessment, curricular adaptation’s, knowledge of transition age, young children with multiple disabilities, and assistive technology. Prerequisite: Braille I, Braille II and Consent of Instructor Consent of instructor required. Prerequisite(s): Braille I and Braille II and consent of instructor.

SPED 463. Introduction to Assessment of Diverse Exceptional Learners 3 cr. Theory and use of norm and criterion-referenced instruments and learning theories in the classroom; planning of prescriptive instructional programs.

SPED 464. Working with Young Children with Special Needs, Ages Birth-2 3 cr. Provides competencies for working with infants and toddlers (birth-2) with exceptionalities and their families. Neo-natal, home-based, and community-based programs and issues are included. Same as ECEC 465 and SPED 564.

SPED 466. The Learning Disabled Student in a Diverse Society 3 cr. Current definitions, conceptualizations, and techniques. Taught with SPED 566 SPED 666 with differentiated assignments. Prerequisite(s): SPED 350 or 500 or consent of instructor. Restricted to SPED majors.

SPED 467. Behavior Disorders in a Diverse Society 3 cr. An in-depth study of the classification, characteristics, educational needs, and professional literature regarding individuals with behavior disorders. Taught with SPED 567 and SPED 667 with differentiated assignments. Prerequisite(s): SPED 350 or SPED 500 or consent of instructor. Restricted to SPED majors.

SPED 470. Life Span Development and Transition in a Diverse Society 3 cr. Special problems associated with transitions over the life span, with emphasis on adolescent and adult needs. Attention to service approaches for public schools, sheltered workshops, residential hospitals, and group homes.
SPED 480. Secondary Curriculum, Methods, and Materials for Special Education in a Diverse Society 3 cr.
Curriculum theory and development for elementary special education programs. Various teaching methods utilized with secondary exceptional learners and techniques for identifying, adapting, and developing materials will be addressed. Taught with SPED 580.

SPED 481. Practicum in Education, Equity and Cultural Diversity 2-6 cr.
Supervised experience in special education settings. One semester (2 credits) required. Prerequisite(s): SPED 350 and SPED 360 or consent of instructor.

SPED 482. Student Teaching SPED 1-12 cr.
Supervised teaching in a special education classroom and participation in a required seminar. Prerequisite: SPED 481 and admission to student teaching. May be repeated for a maximum of 6 credits. Restricted to special education majors. Same as SPED 582.

SPED 483. Early Childhood SPED Student Teaching 6 cr.
A student teaching experience designed for students studying early childhood special education. Prerequisites: SPED 281 and admission to student teaching. Restricted to majors. Same as SPED 583.

SPED 485. Introduction to Autism 3 cr.
This course will provide an overview of autism spectrum disorders as a triad of impairments, including historical and theoretical perspectives, assessment issues, characteristics of autism, intervention programs, and family issues. Taught with SPED 585 and SPED 685.

SPED 486. Behavior and Autism 3 cr.
This course will cover the first of the triad of impairments. Students will gain an understanding of the behaviors of children with autism. Students will examine several behavior management philosophies and research based interventions and how they can be applied in the educational setting. Attention will also be given to play skills. The family perspective and participation in the proactive behavior management process will be incorporated throughout the course. Taught with SPED 586 and SPED 686 with differentiated assignments. Consent of instructor required. Pre/Corequisite(s): SPED 485 or SPED 585 or SPED 685.

SPED 487. Social Skills and Autism 3 cr.
This course will cover the second of the triad of impairments. As a blend of researched based models and evidenced based practical applications, students will gain an understanding of the social skill deficits often associated with autism spectrum disorders. Review a variety of social cognition theories and explore effective social skill interventions for children functioning at a variety of levels along the autism spectrum. Taught with SPED 587 and SPED 687 with differentiated assignments. Consent of instructor required. Pre/Corequisite(s): SPED 485 or SPED 585 or SPED 685.

SPED 488. Communication and Autism 3 cr.
This course will cover the third of the triad of impairments. Students will gain an overview of communication characteristics and difficulties often associated with autism spectrum disorders. Review current tools and strategies used to assess speech, language, and interaction skills. Use assessment results to identify needs and implement appropriate interventions. Explore a variety of intervention strategies aimed at building receptive, expressive, and pragmatic language of children functioning at a variety of levels along the autism spectrum. Taught with SPED 588 and SPED 688 with differentiated assignments. Consent of instructor required. Pre/Corequisite(s): SPED 485 or SPED 585 or SPED 685.

SPED 489. Topics 3 cr.
Offered under various subtitles which indicate the subject matter to be covered. May be repeated 3 times for a maximum of 9 credits.

SPED 495. Directed Study courses in Special Education 1-3 cr.
Each course shall be identified by a qualifying subtitle. A maximum of 3 credits per semester and a grand total of 3 credits.

SPED 495 H. Directed Study Courses in Special Education. 1-3 cr.
Designed for students in the honors program. Each course will be identified by a qualifying subtitle. A maximum of 3 credits in any one semester and a grand total of 6 credits.

STAT- STATISTICS

STAT 251. Statistics for Business and the Behavioral Sciences 3 cr.
Techniques for describing and analyzing data; estimation, hypothesis testing, regression and correlation; basic concepts of statistical inference. Prerequisite: MATH 120 (see note above.) Same as E ST 251G.

STAT 271. Statistics for Psychological Sciences 3 cr.
Techniques for describing and analyzing data; basic concepts of statistical inference; estimation, hypothesis testing, correlation, and analysis of variance. Prerequisite: MATH 120.

STAT 371. Statistics for Engineers and Scientists I 3 cr.
Modern probability and statistics with applications to the engineering sciences. Prerequisite: MATH 192G.

STAT 400. Undergraduate Research 1-3 cr.
Arrangements must be made with supervising professor before registration. May be repeated for a maximum of 6 credits.

STAT 401. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

Basic probability distributions including binomial, normal; random variables; expectation; laws of large numbers; central limit theorem. Prerequisites: MATH 291G and at least one 300 level Math course.

Point and interval estimation; sufficiency; hypothesis testing; regression; analysis of variance; chi-square tests. Prerequisite: STAT 470.

SUR- SURVEYING ENGINEERING

SUR 101. Introduction to Surveying Engineering 1 cr.
Review and discussion of career paths open to surveying engineers. Restricted to: Main campus only.

SUR 109. Computer Drafting Fundamentals 3 cr. (2+2P)

SUR 143. Civil/Survey Drafting I 3 cr. (2+2P)
Same as DRFT 143 and E T 143. Prerequisite: DRFT 109.

SUR 201. GPS and Spatial Data Applications 3 cr.
Overview of spatial data applications based on GPS observations. Emphasis on positioning and navigation using code-phase techniques with handheld receivers. Use of coordinate systems. Students encouraged to have their own GPS handheld unit. Restricted to: Main campus only.

SUR 222. Plane Surveying 3 cr. (2+3P)
Surveying theory and practice as applied to plane surveying, in these areas: error propagation, linear measurements, angle measurements, area determination, differential and trigonometric leveling, and topographic mapping. Prerequisite(s): MATH 190G.

SUR 264. Introduction to LIS 3 cr. (2+3P)
Introduction to land information systems. Land tenure systems, coordinate systems, computer methods. Pre/Corequisite(s): DRFT 109.

SUR 285. Photogrammetry 3 cr. (2+3P)
Introduction to the techniques and uses of photogrammetry in surveying and mapping. The geometry of stereo models. Flight planning. Prerequisite(s): MATH 190G. Restricted to: Main campus only.

SUR 292. Public Land Survey System Boundaries 3 cr. (2+3P)
Detailed study of the U.S. Public Land Survey System Instructions with special emphasis on New Mexico. Sectionalized land subdivision, corner restoration, and field surveys. Field trips required. Prerequisite: SUR 222.

SUR 312. Legal Principles of Boundary Surveying 3 cr.
Legal principles of property boundary retracement, land descriptions, and rights-of-way. Systems of law and legal research. Requires a legal research paper. Prerequisite: SUR 292.

SUR 322. Spatial Data Concepts and Models 3 cr. (2+3P)
Spatial data concepts, models and computational methods as applied to surveying. Topics include coordinate geometry, state plane coordinates, spherical trigonometry, and data adjustments to models. Limitations of data models will be explored. Prerequisite: SUR 222.

SUR 339. Principles and Practices of Construction Surveying 3 cr. (2+3P)
Surveying principles and practice as they are applied to construction surveys. Horizontal, vertical and spiral curves, slope staking, area and volume computations. Prerequisites: SUR 222 and either MATH 191G or MATH 235.

SUR 330. Computer Applications of Surveying 3 cr. (2+3P)
Overview of concepts and tools used in computer applications and manipulation of spatial data. Includes incidental programming in one or more languages, spreadsheet operations, and utilization of software packages. Prerequisite(s): CAD course, Programming course, SUR 222, and either MATH 191G or MATH 235.

SUR 351. Introductory Survey Measurements, Analysis, and Adjustments 3 cr.
Applications of mathematics in surveying. Conventional topics of error ellipses and theory of observations. Emphasis on computer applications for adjustments and analysis. Prerequisites: SUR 222 and MATH 192G.

SUR 361. Introduction to Geodesy 3 cr. (2+3P)
The ellipsoid of revolution, computations on the ellipsoid, coordinate systems, gravity, and leveling. Prerequisites: SUR 222 and either MATH 191G or MATH 235.
SUR 401. Ethics and Professionalism in Surveying and Mapping 3 cr.
Design and use of survey control networks. Includes Horizontal, Vertical and 3D networks. Use of standards in control surveying. Prerequisite(s): SUR 222. Pre/Corequisite(s): MATH 192G.

SUR 384. Surveying Practicum 1-3 cr.
Surveying practice under the direction of a licensed, professional land surveyor requiring 45 hours per credit as per a plan worked out between the student and the surveyor and approved by the Surveying Engineering faculty. Work must be certified by the licensed, professional land surveyor. Requires a written report by the student. Prerequisite(s): SUR 222 and junior standing.

SUR 401. Ethics and Professionalism in Surveying and Mapping 3 cr.
Ethics as applied to the survey profession. Includes case studies and problems. Prerequisite(s): SUR 312, SUR 328, and senior standing.

SUR 410. Advanced Topics in Mapping Sciences 3 cr. (2+3P)
Development of map projections as the basis for state plane and other coordinate systems. Organization, management, and use of digital spatial data in terms of conventional and evolving three-dimensional models. Spatial data accuracy. Pre/Corequisite(s): SUR 330.

SUR 412. Advanced Topics in Boundary Surveying 3 cr. (2+3P)
Advanced land boundary topics including water boundaries, mineral claims, Spanish and Mexican land grants, state and national boundaries. Prerequisite: SUR 312.

SUR 450. Senior Project 1 cr.
Research project prepared by student. Includes class presentation. Students will learn how to research after the end of their formal education. Prerequisite(s): Senior Standing.

SUR 451. Advanced Survey Measurements, Analysis, and Adjustments 3 cr. (2+3P)
Rigorous analysis of theory of observations as applied to surveying. Conventional topics of error ellipsoids, least squares, and survey pre-analysis, etc., to be addressed. Emphasis on computer applications for adjustments and analysis. Prerequisite(s): SUR 330, SUR 351, MATH 280. Pre/Corequisite(s): STAT 371.

SUR 452. Land Development Design 3 cr. (2+3P)
Covers different phases of land development process. Study of New Mexico subdivision and condominium laws. Site evaluation includes boundary, control topographic surveys, and environmental and cultural considerations. Students design lot and building arrangements and streets. Prerequisite(s): SUR 312, SUR 328.

SUR 461. Introduction to Satellite Geodesy 3 cr. (2+3P)
Overview of astronomy concepts, summary of celestial mechanics, history of satellite positioning, modern positioning techniques, impact of gravity, review of geodetic standards and specifications, logistics of GPS data collection. GPS data processing, network adjustments, and evaluation of spatial data accuracy. Prerequisite(s): SUR 361 and MATH 280.

SUR 464. Land Information Systems Applications 3 cr. (2+3P)
Concepts of real property, land tenure and ethics, and land registration systems; the function and design of multipurpose cadastre and land information systems. Prerequisite(s): SUR 264, SUR 312, and SUR 330.

SUR 470. Industrial Measurements 3 cr. (2+3P)
Survey measurements and analysis as applied to industrial applications. Topics include deformation studies, optical tooling, etc. Prerequisite: MATH 191G.

SUR 485. Advanced Photogrammetry 3 cr. (2+3P)
Topics include analytical methods, close-range photogrammetry, photoresection, and softcopy photogrammetry. Prerequisite: SUR 265, SUR 330, and SUR 351.

SUR 498. Special Topics 1-3 cr.
Directed studies into current topics. Subject to be agreed upon between student and instructor. Prerequisite: Consent of instructor.

THTR 101G. Introduction to Theatre 3 cr.
An appreciation class introducing the non-major to all aspects of theatre. Playwrights, directors, actors, and designers visit the class. Students attend and report on main-stage productions.

THTR 105. Acting for Non-Majors 3 cr.
An introduction to basic performance techniques for non-majors.

THTR 110. Acting I 3 cr.
Basic understanding of self-expression through a variety of physical exercises, improvisation, and character study, culminating in scene or monologue work.

THTR 115. Voice and Movement 3 cr.
The use, care and development of the actor’s vocal and physical instrument. Includes alignment, centering, Tai Chi, and physical characterization taught in a studio setting.

THTR 130. The Art of Theatre 3 cr.
An introductory class for theatre majors covering the basic elements of campus theatrical endeavor and theory including overviews of theatre history, elements, artists, and literature. Also introduces the Theatre Arts major, faculty, and theatre resources available on campus.

THTR 141. Introduction to Stagecraft 3 cr.
Basic techniques used in the construction of scenery, props, and sound. Lab required. Corequisite(s): THTR 141L.

THTR 141 L. Stagecraft Laboratory 1 cr.
Class members will assist with construction for productions in a studio environment. Corequisite(s): THTR 141.

THTR 142. Introduction to Costume Crafts 3 cr.
A survey of all aspects of costumeing a theatrical production. Basic construction, use of equipment, knowledge of available materials, dyeing, and millinery. Prerequisite: majors or consent of instructor. Corequisite: THTR 142L. No audits.

THTR 142 L. Costume Craft Lab 1 cr.
Class members will assist in construction for productions in a studio environment. Corequisite(s): Majors or consent of instructor. Corequisite(s): THTR 142.

THTR 203. Theatre History I 3 cr.
History of theatre and drama from ancient Greece to Shakespeare.

THTR 204. Theatre History II 3 cr.
History of theatre and drama from the Restoration to the modern day.

THTR 210. Acting II 4 cr. (3+2P)
Contemporary monologues and scene work, using character and script analysis with movement and voice exercises. Prerequisite(s): THTR 110 and THTR 115.

THTR 230. Text Analysis 3 cr.
Methods of analyzing scripts for the actor, director, designer, technician, and playwright. Includes given circumstances, text, plot, character, language, genre, theme, and interpretation. Prerequisite: THTR 130.

THTR 244. Introduction to Stage Makeup 3 cr.
Basic principles of stage makeup: straight, character, and specialty. Includes study of various products, methods of application, and the effects of lighting on makeup.

THTR 248. Running Crew I 1-2 cr.
Students work on a technical aspect of a production in a rehearsal and performance environment. May be repeated for a maximum of 2 credits.

THTR 252. Theatre Sound 3 cr.
Sound, audio, and electricity lectures combined with projects involving working with sound equipment.

THTR 257. Introduction to CAD 3 cr.
Project-oriented course teaching basic principles of drafting on Macintosh computers using MinCAD. Students will develop portfolios of drafted projects. Prerequisite(s): THTR 141 and THTR 141L.

THTR 306. Screenwriting 3 cr.
Writing intensive. Students write a 15-30 minute screenplay, honing skills in dialogue, character, dramatic action and film environment. Scenes will be performed and discussed in class daily. Guest professionals will discuss their experience/expertise. Same as CMI 309, ENGL 309.

THTR 307. Costume History 3 cr.
History of clothing for theatrical purposes, origins and evolution of period clothing in relation to social, political, and aesthetic factors of different periods.

THTR 308. Creative Writing: Playwriting 3 cr.
Technique of one-act playwriting, and analysis of dramatic structure. Same as ENGL 308. Prerequisite: ENGL 111.

THTR 309. Advanced Creative Writing: Playwriting Workshop 3 cr.
Technique of full-length playwriting, and analysis of dramatic structure. Prerequisite(s): THTR 308 or consent of instructor. Crosslisted with: ENGL 415

THTR 310. Styles in Acting I 3 cr.
Period styles in acting before 1640 including Greek, Roman, medieval, and commedia dell’arte with analysis of each period, script, and character. Prerequisites: THTR 203 and THTR 210.
THTR 311. Styles in Acting II 3 cr.
Period styles in acting after 1640, including Restoration, eighteenth century, Chekhov, manners, farce and absurdism with analysis of each period, script, and character. Prerequisites: THTR 204 and THTR 210.

THTR 312. Acting Shakespeare 3 cr.
Acting Shakespeare’s tragedies and comedies, including text work, scansion, movement, scene work, and monologues. Prerequisite(s): THTR 210 and either THTR 408 or THTR 409. Restricted to: Main campus only.

THTR 313. Improvisation 3 cr.
Long and/or short form improvisation techniques in addition to a variety of exercises exploring terminology, character work and the elements of comedy. Prerequisite(s): THTR 210 or consent of instructor. Restricted to: Main campus only.

THTR 315. Advanced Movement: Stage Combat 3 cr.
Uses of stage combat as a vehicle for studying the physical integration of character. Unarmed and period combat is studied in the context of scene work. Prerequisite: THTR 110 and THTR 115.

THTR 316. Advanced Voice: Stage Dialects 3 cr.
Studio class emphasizing the International Phonetic Alphabet and stage dialects. Scene and monologue work is required. Prerequisites: THTR 110 and THTR 115.

THTR 321V. Modern European Drama 3 cr.
Masterworks of European drama from the late 18th century to present, including such playwrights as Chekhov, Strindberg, Shaw, O’Casey, Pirandello, Garcia Lorca, Sartre, and Camus. Restricted to: Main campus only. Crosslisted with: ENGL 321V

THTR 323. American Drama 3 cr.
Same as ENGL 323.

THTR 329. Studies in Drama 3 cr.
Same as ENGL 329.

THTR 337. Independent Study 1-3 cr.
For highly motivated students. Independent projects and individual guidance. May be repeated for a maximum of 6 credits.

THTR 341. Scene Painting 3 cr.
Use of historical painting techniques in a project-driven classroom. Projects include 2-D and 3-D work, color mixing and theory, painting drops, and the use of paint for effects. Prerequisite: THTR 141 or consent of instructor.

THTR 342. Advanced Costume Craft Techniques 3 cr.
General application of advanced three-dimensional technical costuming processes. May include buckram, celtastic, proptoplast, and latex applications. Prerequisite: consent of instructor.

THTR 343. Costume Patternmaking 3 cr.
Basic techniques in the production of flat patterns for modern and period silhouettes including some draping techniques. Prerequisite: consent of instructor.

THTR 344. Advanced Stage Makeup 3 cr.
Special problems in styles and character makeup, work with advanced materials, ventilating, and prosthetics. Prerequisite: THTR 244 or consent of instructor.

THTR 346. Theatre Practicum 1 cr.
A practical course intended to give students additional experience in scenic, costume, or lighting studios. Prerequisite: either THTR 141 or THTR 142. May be repeated for a maximum of 4 credits. Graded S/U.

THTR 349. Running Crew II 1-2 cr.
Students will work on a technical aspect of a production in a rehearsal and performance environment. Prerequisite: THTR 249. May be repeated for a maximum of 3 credits. Graded S/U.

THTR 352. Costume Design 3 cr.
Basic principles of costume design, including script analysis, study of design, drawing, and painting, and completion of rendered projects. Prerequisite: THTR 307 or consent of instructor.

THTR 353. Scene Design 3 cr.
Design for the performing arts. Basic design skills and projects to exercise those skills, history of design in the theatre and the designer’s role in the production process. Final project includes a finished scene design. Prerequisite: THTR 141 or consent of instructor.

THTR 355. Lighting Design 3 cr.
Basic aspects of theatre lighting, including electricity, color theory, history, and types of theatre lighting. Required work includes hanging and focusing lights and crewing NMSU theatre productions. Prerequisite: THTR 141 or consent of instructor.

THTR 356. Theatre Production 1-3 cr.
Participation in the production of theatrical performances by stage managing, acting, designing, dramaturgy, or directing. May be repeated for a maximum of 6 credits. Graded S/U.

THTR 357. Computer Scenographics 3 cr.
Project-oriented course teaching basic computer modeling skills. Projects focus on the creation of communication tools designers use in the theatrical process. Students will develop portfolios of completed projects. Prerequisites: THTR 352, THTR 353, or THTR 356; and consent of instructor.

THTR 360. Creative Dramatics 3 cr. (2-2P)
Methods of developing original dramatizations. Emphasis on curriculum problems and teaching techniques in elementary and secondary schools.

THTR 362. Children’s Theatre Production 3 cr.
The selection and direction of plays for children.

THTR 366. Summer Theatre 1-3 cr.
Experience in professional or academic summer theatre. May be repeated for a maximum of 3 credits. Graded: S/U. Prerequisite(s): Consent of department head. Restricted to THTR majors.

THTR 382. Theatre Management 3 cr.
Publicity, promotion, box-office and business administration of theatre.

THTR 384. Stage Management 3 cr.
Study of stage management techniques and their application to play production. A working knowledge of union rules, and the procedure to facilitate these through proper communication skills. Prerequisite(s): THTR 141.

THTR 395. Directing I 3 cr.
Study and application of basic stage directing history and techniques. Prerequisite(s): THTR 110 and THTR 230.

THTR 407. Shakespeare I 3 cr.
Same as ENGL 407.

THTR 408. Shakespeare II 3 cr.
Same as ENGL 408.

THTR 411. Audition Techniques 3 cr.
Preparation for audition, including selection and preparation of a repertoire of pieces, composition of resumes, cold reading techniques, and interviews. Prerequisites: THTR 210. Restricted to theatre majors.

THTR 415. Advanced Stage Combat 3 cr.
Continuation of teachings of staged violence, with emphasis on additional weapons and preparation for the Society of American Fight Directors skills test. Prerequisite: THTR 315.

THTR 430. Special Topics 1-3 cr.
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 9 credits.

THTR 431. Dramatic Theory and Criticism 3 cr.
Studies in dramatic theory and literature from classicism to the present day, including Aristotle and Horace, Racine and Corneille, Zola and Strindberg; and twentieth century innovators such as Stanislavsky, Brecht, and Artaud; with plays from the various historical periods read together with major theories and critical approaches. Prerequisites: THTR 203 and THTR 204.

THTR 435. Directed Reading 1-3 cr.
Directed individualized studies. May be repeated for a maximum of 3 credits.

THTR 439. Senior Seminar 2 cr.
Capstone course preparing students to demonstrate a comprehensive knowledge of theatre arts. Prefer students to take in same semester as THTR 144. Restricted to Main campus only. Restricted to THTR majors.

THTR 440. Senior Seminar Practicum 1 cr.
Capstone course preparing students to apply knowledge of theatre arts toward advanced training or career objectives in the discipline. Consent of instructor required. Pre/Corequisite(s): THTR 439. Restricted to: Main campus only. Restricted to THTR majors.

THTR 453. Advanced Scene Design 3 cr.
Refinement of design skills, individualized instruction in special problems, practical design assignment as designer or assistant on current production. Prerequisite: THTR 353 or consent of instructor.

THTR 454. Rendering Techniques 3 cr.
Drawing, painting, and presentation techniques for theatrical designers. Prerequisite: consent of instructor.

THTR 455. Advanced Lighting Design 3 cr.
The design of lighting for live performance. Emphasis on conceptual aspects of design, as well as the uses of special techniques and effects. Crew requirements TBA. Prerequisite: THTR 355 or consent of instructor.
THTR 457. Advanced Computer Scenographics 3 cr.
Project-oriented course for the advanced modeler. Projects focus on the creation of complex models, custom texturing and shading, virtual lighting, postproduction image work, and animation techniques. Students will develop digital portfolios. Prerequisite: THTR 357 and consent of instructor.

THTR 459. Design Portfolio Preparation 3 cr.
Development of portfolio and resume for advanced technical theatre students for entry into professional world or graduate study. Consent of instructor required. Prerequisite(s): THTR 352, THTR 353, or THTR 355. Restricted to: Main campus only.

THTR 480. New Play Production 3 cr.
Development of new plays for production. Prerequisite: consent of instructor.

THTR 486. Technical Direction 3 cr.
Students will work on specific technical problems leading to technical development of new plays for production. Prerequisite: consent of instructor. Restricted to: Main campus only.

THTR 495. Directing II 3 cr.
Advanced study of directing, with focus on theory, style, and concept. Prerequisite: grade of B or higher in THTR 395. Graded S/U.

UNIV- UNIVERSITY STUDIES

UNIV 101. Tutorial 1-3 cr.
Development of specific skills required for college courses, such as note-taking, listening, and test-taking. To be taken in conjunction with a regular designated college course. May be repeated for a maximum of 3 credits. Graded S/U.

UNIV 103. Math Study Skills 1 cr.
Introduction to study and learning strategies related to math problem solving and techniques for overcoming math anxiety. Graded S/U.

UNIV 110. Personal Learning Skills I 1-3 cr.
Individualized programs for self-improvement in skill areas necessary for academic success in the university environment. Each course to bear an appropriate subtitle. May be repeated up to 3 credits. Graded S/U.

UNIV 111. Personal Learning Skills II 1-3 cr.
Individualized programs for self-improvement in skill areas necessary for academic success in the university environment. Each course to bear an appropriate subtitle. Prerequisite: UNIV 110. May be repeated for a maximum of 3 credits. Graded S/U.

UNIV 112. Academic and Personal Effectiveness 2 cr.
Learn academic self-analysis skills through the application of study and learning techniques to current course demands. Exposure to a variety of topics which enhance university and life-long learning.

UNIV 113. Speed Reading 1 cr.
Introduction to strategies and techniques for increasing reading rate and comprehension related to academic areas.

UNIV 150. The Freshman Year Experience 3 cr.
An introduction to the university and its resources; emphasis on development of academic and personal skills that enable freshmen to become successful learners.

UNIV 207. Introduction to Women's Studies 3 cr.
Same as CTFM 171.

UNIV 212. Critical Thinking/Reading 1 cr.
Development of strategies to enhance analytical reading and problem solving skills. Graded S/U.

UNIV 250. Transitions 1 cr.
For student transferring from another institution. An introduction to the university and its resources. Emphasis on academic and personal skills that enable a successful transition. Graded S/U. UNIV 300. Preparing for the Graduate Record Examination 1 cr. Preparation for taking the Graduate Record Examination including review, test taking strategies and practice for the verbal, quantitative and analytical sections. Graded S/U.

UNIV 300. Preparing for the Graduate Record Examination 1 cr.
Preparation for taking the Graduate Record Examination including review, test taking strategies and practice for the verbal, quantitative and analytical sections. Graded S/U.

UNIV 350. Peer Education 3 cr.
Overview of college student development theory and its application to college student learning and peer education. Supervised experience as a peer educator with training in structured group facilitation. Prerequisite: consent of instructor.

UNIV 395. Independent Study 1-3 cr.
Individualized projects related to the field of learning assistance. May be repeated for a maximum of 3 credits.

W S- WOMEN'S STUDIES

W S 171. Dress, Culture, and Identity 3 cr.
Same as CTFM 171.

W S 201. Introduction to Women's Studies 3 cr.
Analysis of the status of women in society today and history and consequences of gender stratification and inequality from the perspectives of sociology, anthropology, psychology, political science, and other sciences.

W S 202G. Representing Women Across Cultures 3 cr.
Historical and critical examination of women's contributions to the humanities, with emphasis on the issues of representation that have contributed to exclusion and marginalization of women and their achievements.

W S 250. Special Topics 3 cr.
The topic of course will vary and will be indicated by subtitle. May be cross-listed with relevant courses at the 200-level from any specific department. May be repeated under different subtitle(s).

W S 273. Sex and Gender 3 cr.
Same as SOC 273.

W S 316. History of Women in the American West 3 cr.
Experiences and interactions among Native American, Spanish/Mexican, immigrant, and Anglo-American women in the American West from 1500 to the present. Same as HIST 316.

W S 320. Sex Roles in Education 3 cr.
Same as C EP 320.

W S 325. Topics in Feminist Philosophy 3 cr.
Same as PHIL 325.

W S 345. Victimology 3 cr.
Same as C J 345.

W S 350. Special Topics 3 cr.
The topic of course will vary and will be indicated by subtitle. May be cross-listed with relevant courses at the 300-level from any specific department. May be repeated under different subtitle(s).

W S 351. Women in American History I 3 cr.
Same as HIST 351.

W S 352. Women in American History II 3 cr.
Same as HIST 352.

W S 356. Women and Politics 3 cr.
Political socialization of children; women's past and present participation in the public sphere; gender-related public policy issues.

W S 357. Gender and Society 3 cr.
Overview of issues related to gender including how gender is constructed and reproduced in our society. Gender is examined from social psychological and institutional perspectives. Same as SOC 357.

W S 358. Sociology of the Family 3 cr.
Same as SOC 299.

W S 359. Psychology of Women 3 cr.
Same as PSY 359.

W S 374V. Comparative Family Systems 3 cr.
Same as SOC 374V.
W S 380V. Women Writers
Same as ENGL 380V. 3 cr.

W S 381V. Women's Health Issues
Same as HL S 380V. 3 cr.

W S 382. Women in Mass Media
Same as JOUR 380. 3 cr.

W S 388. Women and Europe I
Same as HIST 388. 3 cr.

W S 389. Women in Europe II
The history of women and gender in modern Europe, 1550-Present. Examines how conceptions of gender and sexuality both shaped and were shaped by political and social transformations in European history. Restricted to: Main campus only. Crosslisted with: HIST 389 3 cr.

W S 397. Law and Sex
Sex-based discrimination and the impact of constitutional and statutory provisions and their judicial interpretations and executive orders and implementations. Same as GOVT 397. 3 cr.

W S 422. Advanced Study in a Literary Form or Genre
Same as ENGL 422. May be repeated for a maximum of 6 credits. 3 cr.

W S 423. Advanced Study in a Major Author
Prerequisite: ENGL 111G. May be repeated under different subtitles for a maximum of 6 credits. Same as ENGL 423. 3 cr.

W S 433. Women, Gender, and Culture
Same as ANTH 433. 3 cr.

W S 450. Special Topics
The topic of course will vary and will be indicated by subtitle. May be cross-listed with relevant courses at the 400-level from any specific department. May be repeated under different subtitle(s). 3 cr.

W S 451. Women's Studies Practicum
Supervised field work in community setting relating to women. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. 3 cr.

W S 453. Women and Politics
Same as GOVT 453G. 3 cr.

W S 454. Women Crossing Borders
Experiences of women who cross class, race, cultural, national, or sexual borders including theories regarding women's interactions across borders. Emphasis will vary with professor and discipline. 3 cr.

W S 455. Feminist Research Methods
Feminist research practices and methodologies utilized in various disciplines. Definitions of research, what constitutes valid inquiry, how research can be feminist, and what it means to do interdisciplinary work. 3 cr.

W S 456. Advanced Sociology of the Family
The family in various societies; evolution of the American family. 3 cr.

W S 458. Anthropology of the Life Cycle
Same as ANTH 458. 3 cr.

W S 459. Advanced Issues in Sex and Gender
Same as SOC 459. 3 cr.

W S 461. Women's Studies: Independent Study
Individual study of selected topic and writing of research paper. Prerequisite: consent of instructor. May be repeated for a maximum of 6 credits. 3 cr.

W S 462. Family Communication
Same as COMM 462 and FCS 462. 3 cr.

W S 463. Communication and Gender
Same as COMM 463. 3 cr.

W S 465. Sex, Gender and the Body across the Disciplines
Ways in which the body is used to construct identities and boundaries regarding race, gender, and class. Representations of the body across a variety of disciplines in the sciences and the humanities. Prerequisite: None 3 cr.

W S 466. Global Sexualities
Generates a global context to focus on sexual identity and orientation, sexual identity politics, romantic relationships, patterns of sexual behavior, sexual regulation and the impact of different cultures on individual sexualities. Taught with WS 568. Crosslisted with: SOC 466. 3 cr.

W S 471. Seminar in Feminist Theory
Current feminist theory. Topic changes by semester. Course subtitiled in the Schedule of Classes. Prerequisite: None 3 cr.

W S 474. Gender in East Asian History
Same as HIST 474. 3 cr.

W S 481. Hate Crimes and Hate Groups
Explores the phenomenon of hate-motivated violence. Examines the hate crime laws, organized hate groups and social theories attempting to explain violent hate. 3 cr.

W S 482. Gender and Popular Culture
Intensive study of the representations of gender in popular culture. Examines the historical, aesthetic, and cultural contexts of these representation and the various critical and theoretical lenses we use to understand them. Repeatable under different subtitles. Crosslisted with: ENGL 482 3 cr.

W S 483. Spanish-American Women Writers
Same as SPAN 483. 3 cr.

W S 484. Women's Literature
Intensive study of literature by women, in particular historical, aesthetic, cultural, or intellectual contexts. Repeatable under different subtitles. Crosslisted with: ENGL 481 3 cr.

W S 485. Sex Crimes
Dynamics of sex crimes for victims and offenders; plus consideration of the legal correction systems' response to sex crimes. Same as C J 485 3 cr.

W S 491. Hate Crimes and Hate Groups
Explores the phenomenon of hate-motivated violence. Examines the hate crime laws, organized hate groups and social theories attempting to explain violent hate. 3 cr.

W S 492. Gender and Popular Culture
Intensive study of the representations of gender in popular culture. Examines the historical, aesthetic, and cultural contexts of these representation and the various critical and theoretical lenses we use to understand them. Repeatable under different subtitles. Crosslisted with: ENGL 482 3 cr.

W S 493. Spanish-American Women Writers
Same as SPAN 483. 3 cr.

W S 494. Women’s Literature
Intensive study of literature by women, in particular historical, aesthetic, cultural, or intellectual contexts. Repeatable under different subtitles. Crosslisted with: ENGL 481 3 cr.

W S 495. Sex Crimes
Dynamics of sex crimes for victims and offenders; plus consideration of the legal correction systems' response to sex crimes. Same as C J 485 3 cr.

**WERC - A CONSORTIUM FOR ENVIRONMENTAL EDUCATION AND TECHNOLOGY DEVELOPMENT**

**WERC 280. Introduction to Environmental Fundamentals** 3 cr.
Role of science and the various branches of engineering in protecting the environments including discussion of fundamentals of environmental fields, pollution prevention, environmental health and protection, and other related issues.

**WERC 300. Introduction to Pollution Prevention and Its Application** 3 cr.
Investigates various approaches to industrial and domestic pollution prevention, waste minimization, and energy efficiency with emphasis on applications in the Southwest. Topics include: industrial case studies, energy conservation, environmental risk analysis, evaluating environmental performance, pollution prevention program development, training and education programs, funding sources, and economic impact.

**WERC 312. Emergency Response to Hazardous Material Incidents** 2 cr.
Same as E S 312, E T 312.

**WERC 330. Environmental Management Seminar I** 1 cr.

**WERC 350. Introduction to Energy, Environment and Risk Assessment** 3 cr.
Presents the fundamentals of risks/benefits in energy and environmental issues. Also presents fundamentals of environmental, radiological and ecological risks from an applied perspective.

**WERC 381. Renewable Energy Technologies** 3 cr. (2-3P)
Renewable energy systems, including topics in thermal-solar, photovoltaic, wind, geothermal systems, and other current topics. Theory, practical applications, safety considerations and the economics of alternative renewable energy systems compared to conventional systems. Prerequisite(s): MATH 121G. Crosslisted with: E T 381.

**WERC 382. Solar Energy Technologies** 3 cr. (2-3P)
Solar energy technologies, including topics in passive, solar thermal, and photovoltaic systems. Theory, practical applications, safety considerations and the economics of renewable energy systems compared to conventional systems. Prerequisite(s): MATH 121G. Crosslisted with: E T 382.

**WERC 384. Wind and Water Energy Technologies** 3 cr.
Wind and Water energy technologies, including topics in small and large scale systems. Theory, practical applications, safety considerations and the economics of wind and water renewable energy systems compared to conventional systems. Same as ET 384. Prerequisite: MATH 121G.

**WERC 386. Sustainable Construction and Green Building Design** 3 cr.
Sustainable Building materials, methods, and techniques including green architecture and design, codes, standards and specifications. Same as ET 386. Prerequisite: MATH 121G.

**WERC 425. Chemical Hygiene Awareness for New Mexico Schools** 3 cr.
Increases knowledge, skills, and delivery of classroom instruction which will assist public school s compliance with 1990 federal and state mandates on laboratory safety and chemical hygiene concerns required by OSHA Laboratory Standards (29CFR1910.1450) and New Mexico's Children's Health and Safety in Schools Standards.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLSC 261</td>
<td>Principles of Fish and Wildlife Management</td>
<td>3 cr.</td>
<td>General ecological theory with emphasis on concepts including biogeography, species interactions, population dynamics and disease ecology as they relate to the management and conservation of vertebrates. prerequisites(s): BIOL 111G or BIOL 190.</td>
</tr>
<tr>
<td>WLSC 301</td>
<td>Wildlife Ecology</td>
<td>3 cr.</td>
<td>Evolution, ecology, and diversity of vertebrates. Topics include comparative anatomy and physiology, biogeography, community ecology, behavior, and conservation. Laboratory emphasizes identification of local taxa. Field trips required. prerequisite(s): BIOL 111G and BIOL 111L. Pre/Corequisite(s): BIOL 322 Zoology.</td>
</tr>
<tr>
<td>WLSC 330</td>
<td>Environmental Biology of Fishes</td>
<td>4 cr. (3-2P)</td>
<td>Evolution, ecology, and diversity of fish. Topics include concepts of fishery biology and conservation. Laboratory emphasizes identification of local taxa. Field trips required. prerequisite(s): BIOL 111G and BIOL 111L. Pre/Corequisite(s): BIOL 111G and BIOL 111L.</td>
</tr>
<tr>
<td>WLSC 335</td>
<td>Aquatic Contaminants and Toxicology</td>
<td>4 cr. (3-3P)</td>
<td>Basic principles and methodologies of aquatic toxicity testing, exposure and modes of action. Environmental legislation and ecological risk assessment. prerequisite: senior standing or consent of instructor. Same as WLSC 333.</td>
</tr>
<tr>
<td>WLSC 427</td>
<td>Wildlife Damage Control</td>
<td>3 cr.</td>
<td>Introduction to basic need and appropriate methods for control of animal damage. Socioeconomic, ecological, and political factors. prerequisite(s): BIOL 111G.</td>
</tr>
<tr>
<td>WLSC 448</td>
<td>Problems</td>
<td>1-3 cr.</td>
<td>Individual investigations in fishery or wildlife science. Maximum 3 credits per semester and a grand total of 6 credits. Consent of instructor required. prerequisite(s): 18 credits in WLSC.</td>
</tr>
<tr>
<td>WLSC 450</td>
<td>Environmental Risks and Decisions</td>
<td>3 cr.</td>
<td>Risk assessment and decision analysis in the context of environmental and conservation issues. Concepts of risk perception and uncertainty; precautionary principle; the roles of experts and stakeholders; the use of conceptual and probabilistic models in risk assessment. Pre/Corequisite(s): MATH 142 or MATH 191G, E ST 311.</td>
</tr>
<tr>
<td>WLSC 459</td>
<td>Aquatic Ecology</td>
<td>4 cr.</td>
<td>Ecological functions of plant and animal communities in aquatic ecosystems; emphasis on regulation of community structure and productivity. Field trips required. prerequisite(s): CHEM 112G, BIOL 301, and MATH 142G. Same as E S 458.</td>
</tr>
<tr>
<td>WLSC 464</td>
<td>Management of Aquatic and Terrestrial Ecosystems</td>
<td>4 cr. (3-2P)</td>
<td>Principles and methods for managing aquatic and terrestrial ecosystems and their fish and wildlife resources. Emphasis on quantitative techniques, data collection and analysis for management of systems at a landscape spatial scale. prerequisite(s): BIOL 301 or WLSC 301, WLSC 330, E ST 311.</td>
</tr>
</tbody>
</table>
  Ecological principles, production and harvest, habitat management, and
techniques of mammal management.
WLSC 482. Ichthyology  4 cr. (3+2P)
  Classification, morphology, identification, life history, and ecology of fishes.
  Prerequisite(s): WLSC 330 or consent of instructor.
WLSC 488. Conservation Genetics  3 cr.
  Application of evolutionary theory and biotechnologies used in conserva-
tion of populations including concepts in population structure, gene flow,
inbreeding, hybridization, and forensics. Consent of instructor required.
  Prerequisite(s): BIOL 305 or AGRO 305.
## SPECIAL COURSES

**COURSES OFFERED ONE TIME ONLY, 2009-2010. These courses may be permanently added to the catalog at the request of the department.**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCT 250</td>
<td>Construction Documents</td>
<td>3 cr.</td>
<td>(2+2P)</td>
</tr>
<tr>
<td>CE 232</td>
<td>Pre-Mechanics</td>
<td>3 cr.</td>
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</tr>
<tr>
<td>C J 233</td>
<td>Practical Approach to Terrorism</td>
<td>3 cr.</td>
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</tr>
<tr>
<td>DRFT 101</td>
<td>Introduction to Drafting and Design Technologies</td>
<td>2 cr.</td>
<td></td>
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<tr>
<td>DRFT 151</td>
<td>Construction Principles and Print Reading</td>
<td>3 cr.</td>
<td>(2+2P)</td>
</tr>
<tr>
<td>DRFT 180</td>
<td>Residential Drafting</td>
<td>3 cr.</td>
<td>(2+2P)</td>
</tr>
<tr>
<td>DRFT 181</td>
<td>Commercial Drafting</td>
<td>3 cr.</td>
<td>(2+2P)</td>
</tr>
<tr>
<td>DRFT 240</td>
<td>Structural Systems Drafting</td>
<td>3 cr.</td>
<td>(2+2P)</td>
</tr>
<tr>
<td>DRFT 250</td>
<td>Concrete Structural Detailing</td>
<td>3 cr.</td>
<td>(2+2P)</td>
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<tr>
<td>E E 305</td>
<td>Technology Today</td>
<td>3 cr.</td>
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<tr>
<td>HRTM 210</td>
<td>Colloquium I</td>
<td>1 cr.</td>
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<tr>
<td>L SC 111</td>
<td>Basic Information Literacy</td>
<td>3 cr.</td>
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<tr>
<td>MATH 540</td>
<td>Directed Reading</td>
<td>1-6 cr.</td>
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<tr>
<td>MKTG 311G</td>
<td>Consumer Behavior</td>
<td>3 cr.</td>
<td></td>
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<tr>
<td>MKTG 490</td>
<td>Selected Topics</td>
<td>1-18 cr.</td>
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<tr>
<td>NURS 130</td>
<td>Foundations of Pharmacology</td>
<td>3 cr.</td>
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<tr>
<td>NURS 134</td>
<td>Foundation of Nursing Skills</td>
<td>3 cr.</td>
<td>(1+6P)</td>
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<tr>
<td>NURS 136</td>
<td>Foundation of Professional Nursing</td>
<td>6 cr.</td>
<td>(4+6P)</td>
</tr>
<tr>
<td>NURS 147</td>
<td>Adult Health I</td>
<td>6 cr.</td>
<td>(4+6P)</td>
</tr>
<tr>
<td>NURS 148</td>
<td>Physical Health Assessment</td>
<td>2 cr.</td>
<td>(1+3P)</td>
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<tr>
<td>NURS 149</td>
<td>Psychiatric/Mental Health Nursing</td>
<td>3 cr.</td>
<td>(2+3P)</td>
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<tr>
<td>NURS 224</td>
<td>Maternal Child Health Nursing</td>
<td>6 cr.</td>
<td>(4+6P)</td>
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<tr>
<td>NURS 226</td>
<td>Adult Health II</td>
<td>6 cr.</td>
<td>(4+6P)</td>
</tr>
<tr>
<td>NURS 234</td>
<td>Community Health Nursing</td>
<td>1 cr.</td>
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<tr>
<td>OEEM 150</td>
<td>Emergency Medical Technician Intermediate Lab</td>
<td>2 cr.</td>
<td>(8P)</td>
</tr>
<tr>
<td>OEEM 201</td>
<td>Human Pathophysiology</td>
<td>3 cr.</td>
<td>(2+3P)</td>
</tr>
<tr>
<td>OEEM 206</td>
<td>Introduction to Advanced Prehospital Care</td>
<td>3 cr.</td>
<td>(2+3P)</td>
</tr>
<tr>
<td>OEEM 207</td>
<td>EMT-Paramedic Pharmacology</td>
<td>3 cr.</td>
<td>(2+3P)</td>
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<tr>
<td>OEEM 216</td>
<td>EMT-Paramedic: Reproductive and Childhood Emergencies</td>
<td>3 cr.</td>
<td>(2+3P)</td>
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<tr>
<td>OEFS 101</td>
<td>Basic Firefighter</td>
<td>8 cr.</td>
<td>(6+6P)</td>
</tr>
<tr>
<td>OEFS 252</td>
<td>Vehicle Extrication</td>
<td>2 cr.</td>
<td>(1+3P)</td>
</tr>
<tr>
<td>PHYS 470</td>
<td>Physical Optics</td>
<td>3 cr.</td>
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</tr>
<tr>
<td>SPAN 113</td>
<td>Beginning Spanish for Native Speakers</td>
<td>3 cr.</td>
<td></td>
</tr>
<tr>
<td>THTR 438</td>
<td>English Drama After 1660</td>
<td>3 cr.</td>
<td></td>
</tr>
<tr>
<td>WLSC 431</td>
<td>Mammalogy</td>
<td>4 cr.</td>
<td>(3+2P)</td>
</tr>
</tbody>
</table>
PROGRAMS
Egginton, Everett, Vice Provost/International and U.S.-Mexico Border Programs; Ph.D. 1974, Syracuse University.

RESEARCH
Chaitanya, Vimal, Vice President for Research; Ph.D. 1984, John Hopkins University.

Tenured and Tenure-Track Faculty
Abbott, Laurie, Assistant Professor, Animal and Range Sciences; Ph.D. 1999, University of Arizona.

Ackelson, Jason, Assistant Professor, Government; Ph.D. 2001, London School of Economics and Political Science.

Adams, Eve M., Assistant Professor, Counseling and Educational Psychology; Ph.D. 1988, Ohio State University.

Adkisson, Richard V., Associate Professor, Economics and International Business; Ph.D. 1995, University of Nebraska.

Adler, Terry, Academic Department Head, Associate Professor, Management; Ph.D. 1996, University of Cincinnati.

Alexander, George D., Professor, Engineering Technology; Ph.D. 1972, New Mexico State University; Registered Professional Engineer.

Alexander, Rani T., Associate Professor, Sociology and Anthropology; Ph.D. 1993, University of New Mexico.

Allred, Kelly W., Professor, Animal and Range Sciences; Ph.D. 1979, Texas A&M University.

Almied, Jennifer M., English, Ph.D. 2008; Bowling Green State University

Alt, Jerry Ann, Professor, Music; D.M.A. 1985, Arizona State University.

Alt, Kerry J., Assistant Professor, Accounting and Business Computer Systems; Ph.D. 2000, New Mexico State University.

Alvarez, Josefin, Professor, Mathematical Sciences; Ph.D. 1978, University of Buenos Aires.

Amato, Jeffrey M., Associate Professor, Geological Sciences; Ph.D. 1995, Stanford University.

Armfield, Greg G., Assistant Professor, Computer Science; M.S. 1986, New Mexico State University.

Ashigh, Jamshid, Assistant Professor, Cooperative Extension; Ph.D. 1989, Colorado State University.

Arroyo-Jurado, Elsa, Assistant Professor, Library; Ph.D. 2008, University of California, Berkeley.

Arnold, Danny R., Dean, College of Business Administration and Economics; Professor, Marketing and General Business; D.B.A. 1976, Louisiana Tech University.

Armstrong, Robert L., Professor, Physics; Ph.D. 1970, Johns Hopkins University.

Arnold, Stephen D., Academic Department Head, Associate Professor, Health Science; Ph.D. 1989, Colorado State University.

Arterburn, Jeffrey B., Professor, Chemistry and Biochemistry; Ph.D. 1990, University of Arizona.

Azadegan, Arash, Assistant Professor, Management; M.B.A. 1997, Seattle University.

Bader, Jeff, Professor, Cooperative Extension; M.S. 1984, New Mexico State University.

Baggett, Patricia, Professor, Mathematical Sciences; Ph.D. 1977, University of Colorado.

Bailey, Derek W., Associate Professor, Animal and Range Sciences; Ph.D. 1988, Colorado State University.

Bailey, Donovan, Assistant Professor, Biology; Ph.D. 2000, University of Oxford, England.

Baker, Nancy V., Associate Professor, Government; Ph.D. 1989, Tulane University.

Baker, Robin C., Assistant Professor, Cooperative Extension; M.S. 2002, New Mexico State University.

Baker, Sarah, Assistant Professor, Library; M.A. 2005, San Jose State University.

Baker, Terrel, Associate Professor, Cooperative Extension; Ph.D. 1988, Auburn University.

Ballyk, Mary M., Assistant Professor, Mathematical Sciences; Ph.D. 1994, McMaster University.
Clary, Cynda, Professor, Agricultural Economics and Agricultural Business; Ph.D. 1993, North Carolina State University.

Clason, Dennis L., Associate Professor, Economics and International Business; Ph.D. 1987, Kansas State University.

Clavel, Joseph B., Assistant Professor, Cooperative Extension; M.S. 2000, West Texas A&M.

Cleveland, Timothy, Academic Department Head, Associate Professor, Philosophy; Ph.D. 1998, Johns Hopkins University.

Coggins, Kip, Associate Professor, Social Work; Ph.D. 1996, University of Michigan, Ann Arbor.

Cohen, Marcus S., Associate Professor, Mathematical Sciences; Ph.D. 1977, University of Chicago.

Coker, Cheryl A., Associate Professor, Physical Education, Recreation, and Dance; Ph.D. 1995, University of Virginia.

Compton, Nina H., Professor, Finance; J.D. 1978, Widener College.

Conley, Edgar G., Associate Professor, Mechanical Engineering; Ph.D. 1986, Michigan State University; Registered Professional Engineer.

Conreras-Govea, Francisco E., Assistant Professor, Cooperative Extension; Ph.D. 2003, University of Wisconsin/Madison.

Cook, Jeanine, Assistant Professor, Klipsch School of Electrical and Computer Engineering; M.S. 1996, University of Colorado/Boulder.

Cook, Jonathan E., Assistant Professor, Computer Science; Ph.D. 1996, University of Colorado.

Cooper, Sonya L., Academic Department Head, Associate Professor, Engineering Technology; M.E. 1984, University of Virginia.

Cowie, James, Professor, Psychology; Ph.D. 1990, University of Glasgow.

Cowley, David E., Assistant Professor, Fishery and Wildlife Sciences; Ph.D. 1987, University of Wisconsin.

Cox, H. Wayne, Assistant Professor, Cooperative Extension; M.A. 1996, New Mexico State University.

Cox, Leon D., Associate Professor, Engineering Technology and Industrial Engineering; M.S. 1974, New Mexico State University.

Cramer, Christopher, Assistant Professor, Plant and Environmental Sciences; Ph.D. 1997, North Carolina State University.

Creamer, Rebecca J., Associate Professor; Ph.D. 1989, University of California/Davis.

Creed, Joel L., Interim Vice President/University Advancement, Assistant Professor, Chemical Engineering; M.S. 1986, New Mexico State University.

Creider, Laurence S., Assistant Professor, Library Bibliographic Services; Ph.D. 1979, Yale University.

Crescere, Charles D., Associate Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1993, University of California/Davis.

Cronin, Kathleen A., Assistant Professor, Special Ed/Comm Disorders; M.S. 1995, California State University-LA.

Crowley, Joan L., Assistant Professor, Criminal Justice; Ph.D. 1978, Michigan State University.

Cruzado-Salas, Waded, Dean, College of Arts and Sciences, Professor, Languages and Linguistics; Ph.D. 1980, University of Texas/Arlington.

Cull, Ryan, Assistant Professor, English; Ph.D. 2008, University of Illinois/Urbana Champaign.

Cully, Craig M., Assistant Professor, Painting, M.S. 1999, University of Arizona.

Cunnari, Eugene R., Professor, English; Ph.D. 1973, University of Wisconsin/Madison.

Curran, Seamus A., Assistant Professor, Physics; Ph.D. 1995, Trinity College/Dublin.

Curts, Jennifer R., Assistant Professor, Biology; Ph.D. 1997, University of Colorado/Boulder.

Czerniak, Robert J., Professor, Geography; Ph.D. 1979, University of Colorado.

Daily, Bonnie F., Associate Professor, Management; Ph.D. 1991, University of Missouri.

Daniel, David, Associate Professor, Economics and International Business; Ph.D. 1992, Southern Methodist University.

Dansenbrock, Reed W., Associate Dean, College of Arts and Sciences, Professor, English; Ph.D. 1992, Johns Hopkins University.

Daugherty, LeRoy A., Interim Associate Director, Agricultural Experiment Station, Professor, Plant and Environmental Sciences; Ph.D. 1975, Cornell University.

Davies, Cindy S., Instructor, Vocational Home Economics, B.S 1980, Eastern New Mexico University.

Dawe, Angus L., Assistant Professor, Biology; Ph.D. 1996, University of Tennessee/Knoxville.

Dawood, Muhammed, Assistant Professor, Electrical and Computer Engineering; Ph.D. 2001; University of Nebraska.

Dean, Thomas L., Assistant Professor, Cooperative Extension; M.S. 2001, New Mexico State University.

de Boyrie, Maria E., Associate Professor, Finance; Ph.D. 1985, Florida International University.

de la Rosa, Ivan, Associate Professor, School of Social Work; Ph.D. 1998, University of Michigan.

DelCampo, Robert L., Professor, Family and Consumer Sciences; Ph.D. 1975, Florida State University.

De León, Josephine, Professor, Special Education and Communication Disorders; Ph.D. 1985, New Mexico State University.

DeLeon, Phillip L., Associate Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1995, University of Colorado/Boulder.

DeMers, Michael N., Associate Professor, Geography; Ph.D. 1985, University of Kansas.

DeNicochea, Gladys, Associate Provost, Associate Professor, Counseling and Educational Psychology; Ph.D. 1988, University of California/Santa Barbara.

De Onís, Carmen, Assistant Professor, Curriculum and Instruction; Ph.D. 2001, University of Colorado, Boulder.

Deng, Shuguang, Assistant Professor, Chemical Engineering; Ph.D. 1996, University of Cincinnati.

Denny, Misy G., Assistant Professor, Cooperative Extension; M.S. 2001, Tarleton State University.

Derer, Kristine R., Associate Professor, Special Education/Communication Disorders; Ph.D. 1992, Vanderbilt University.

Derlin, Roberta L., Associate Dean, College of Extended Learning, Associate Professor, Educational Management and Development; Ph.D. 1994, University of Wisconsin/Milwaukee.
DeRoos, Yosikazu S., Acting Department Head, Associate Professor, School of Social Work; Ph.D. 1993, University of Chicago.

Desmond, Martha J., Associate Professor, Fishery and Wildlife Sciences; Ph.D. 1997, University of Nebraska.

Devall, Esther L., Associate Professor, Family and Consumer Sciences; Ph.D. 1990, University of Georgia.

Dickson, Ginger L., Assistant Professor, Counseling and Educational Psychology, Ph.D. 2002, University of Iowa.

Diemer, Joel A., Associate Professor, Agricultural Economics and Agricultural Business; Ph.D. 1975, Colorado State University.

Dillaway, Manson P., Academic Department Head, Professor, Accounting and Business Computer Systems; Ph.D. 1980, University of Florida.

Dixion, Stephen R., Assistant Professor, Psychology; Ph.D. 2006, University of Illinois-Urbana-Champaign

Dolgov, Igor, Assistant Professor, Psychology, MA 2007, Arizona State University

Domínguez, Ramon, Associate Professor, Educational Management and Development; Ph.D. 1998, New Mexico State University.

Domínguez, Thomas, Instructor, Cooperative Extension; M.S. 2003, Sul Ross State University

Dorman, Peter W., Professor, Management; Ph.D. 1972, University of Maryland/College Park.

Dorman, William C., Adjunct Academic Department Head, Military Science; B.S. 1977, Arizona State University.

Dormody, Thomas J., Academic Department Head, Professor, Agricultural and Extension Education; M.Ed. 1989, Cornell University.

Druck, Alison S., Assistant Professor, Nursing; Ed.D. 1984, University of Houston.

Duffy, Janelle LaDawn, Assistant Professor, Cooperative Extension; M.S. 2003, New Mexico State University.

Dugas, Daniel P., Assistant Professor, Geography; Ph.D. 1993, University of Oregon.

Duran, Robert J., Assistant Professor, Criminal Justice

Eames, William C., Dean, Honors College, Professor, History; Ph.D. 1977, University of Kansas.

Eber, Christine E., Associate Professor, Sociology and Anthropology; Ph.D. 1991, State University of New York/Buffalo.

Egginton, Everett, Professor, Curriculum and Instruction; Ph.D. 1974, Syracuse University.

Eiceman, Gary A., Professor, Chemistry and Biochemistry; Ph.D. 1978, University of Colorado.

Elam, Nathan A., Assistant Professor, Cooperative Extension; Ph.D. 2003, Texas Tech University.

Elia, Steven M., Associate Professor, Management; Ph.D. 2001, Colorado State University.

Ellington, John J., Professor, Entomology, Plant Pathology and Weed Science; Ph.D. 1963, Cornell University.

Ellis, Lizbeth G., Academic Department Head, Associate Professor, Finance; J.D. 1984, Arizona State University.

Ellis, Michael, Academic Department Head, Professor, Economics and International Business; Ph.D. 1975, University of California/Riverside.

Encinas, A. Manuel, Assistant Professor, Cooperative Extension; Ph.D. 2002, North Dakota State University.

Engelhardt, Michael, Assistant Professor, Physics; Ph.D. 1989, Universitat Erlangen-Nurnberg.

Ennomo, Carl E., Professor, Economics and International Business; Ph.D. 1982, Texas A&M University.

Erickson, Christopher A., Assistant Professor, Economics and International Business; Ph.D. 1989, Arizona State University.

Falk, Constance L., Professor, Agricultural Economics and Agricultural Business; Ph.D. 1988, Oklahoma State University.

Fanti, Greg, Academic Department Head, Assistant Professor, Music; Ph.D. 1996, University of Arizona.

Farmer, Stephen, Associate Professor, Special Education/Communication Disorders; Ph.D. 1983, University of Colorado.

Fernald, Alexander G., Assistant Professor, Animal and Range Sciences; Ph.D. 1997, Colorado State University.

Fernandez, Ivelisse T., Assistant Professor, Counseling and Educational Psychology, Ph.D 2003, University of Iowa.

Fidler, Spencer, Academic Department Head, Professor, Art; M.F.A. 1978, University of Iowa.

Fine, Peter C., Assistant Professor, Art; M.A. 2004, University of Arizona.

Finston, David R., Academic Department Head, Professor, Mathematical Sciences; Ph.D. 1983, University of California/San Diego

Fisher, Derek S., Assistant Professor, MS of Architecture 1998; Massachusetts Institute of Technology. 

Fitzpatrick, Michael, Assistant Professor, Special Education and Communication Disorders; Ph.D. 2005, University of Kansas.

Fleming, William S., Professor, Engineering Technology; M.S. 1966, New Mexico State University; Certified Engineering Technician.

Flores, William V., Executive Vice President and Provost; Professor, Government; Ph.D. 1987, Stanford University.

Flynn, Robert P., Assistant Professor, Plant and Environmental Sciences; Ph.D. 1995, Auburn University.

Foltz, Peter W., Associate Professor, Psychology; Ph.D. 1993, University of Colorado.

Fortin, Richard D., Professor, Finance; Ph.D. 1988, University of Kansas.

Forster-Cox, Sue, Assistant Professor, Health Science; Ph.D. 1995, University of New Mexico.

Fouilade, Claude J., Assistant Professor, Languages and Linguistics; Ph.D. 1978, University of New Mexico.

Fowler, John M., Professor, Agricultural Economics and Agricultural Business; Ph.D. 1979, Iowa State University.

Franco, Juan N., Regents Chief of Staff, Professor, Counseling and Educational Psychology; Ph.D. 1975, New Mexico State University.

Frank, Steven M., Academic Department Head, Associate Professor, Surveying Engineering; Ph.D. 1994, University of Maine.

Franklin, Shannon M., Assistant Professor, Cooperative Extension; M.S. 2005, New Mexico State University.

Franz, Ovidia, Professor, Cooperative Extension; M.S. 1987, Texas Tech University.

Franzak, Judith K., Assistant Professor, Curriculum and Instruction; Ph.D. 2003, University of New Mexico.

Freihi, Lisa M., Associate Professor, Sociology and Anthropology; Ph.D. 1993, University of Arizona.

Fuentes, Viola Lema, Assistant Professor, Government; Ph.D. 2007, Arizona State University.

Furth, Paul M., Associate Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1985, Johns Hopkins University.

Gallegos, Anne, Professor, Special Education/Communication Disorders; Ed.D. 1979, New Mexico State University.

Garay, Rebecca Joyce, Assistant Professor, English; Ph.D. 2003, Arizona State University.

Garcia, Gabe V., Associate Professor, Mechanical Engineering; Ph.D. 1996, Texas A&M.

Garcia, Herman S., Professor, Curriculum and Instruction; Ed.D. 1982, New Mexico State University.

Garcia, Imelda, Professor, Cooperative Extension; M.S. 1986, New Mexico State University.

Garcia, José Manuel, Associate Professor, Languages and Linguistics; Ph.D. 1991, University of Kansas.

Garcia, José Z., Associate Professor, Government; Ph.D. 1974, University of New Mexico.

Garcia-Bryce, Inigo, Assistant Professor, History; Ph.D. 1999, Stanford University.

Garland, Donald, Associate Professor, Finance; J.D. 1975, University of New Mexico.

Gegax, Douglas A., Professor, Economics and International Business; Ph.D. 1984, University of Wyoming.

Gehrke, Mai, Professor, Mathematical Sciences; Ph.D. 1987, University of Houston.

Genin, Joseph, Professor, Mechanical Engineering; Ph.D. 1983, University of Minnesota/Minneapolis; Registered Professional Engineer.

Gianella, Christopher M., Assistant Professor, Computer Science, Ph.D. 2004, Indiana University.

Gibbs, William R., Professor, Physics; Ph.D. 1961, Rice University.

Giles, Katherine Anne, Associate Professor, Geological Sciences; Ph.D. 1991, University of Arizona.

Giles, Michael K., Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1976, University of Arizona.

Giordano, Thomas H., Professor, Geological Sciences; Ph.D. 1978, Pennsylvania State University.

Giorgi, Tiziana, Assistant Professor, Mathematical Sciences; Ph.D. 1997, Purdue University.

Gnatkowski, Peter H., Assistant Professor, Cooperative Extension; M.A. 2004, New Mexico State University.

Goldberg, Gerson, Associate Professor, Finance; Ph.D. 1994, University of Connecticut.

Goldberg, Natalie, Professor, Cooperative Extension; Ph.D. 1998, University of Arizona.

Gomez, R. Edmund, College Associate Professor, Cooperative Extension; B.S. 1991, New Mexico State University.

Gonzales, Alisa, Assistant Professor, Library; M.S. 2001, Kent State University.
Gonzales, Carmen, Dean, College of Extended Learning, Associate Professor, Curriculum and Instruction; Ph.D. 1995, University of New Mexico.

Gonzalez, Maria Luisa, Professor, Educational Management and Development; Ph.D. 1984, New Mexico State University.

Goodwin, Laura G., Assistant Professor, Theatre Arts; Ph.D. 2000, University of Illinois at Urbana-Champaign.

Gopalan, Aravamudan, Academic Department Head, Associate Professor, Chemistry and Biochemistry; Ph.D. 1980, Ohio State University.

Gopalan, Champa S., Professor, Plant and Environmental Sciences; Ph.D. 1978, Ohio State University.

Gordan, Elizabeth A., Instructor, Cooperative Extension; M.A. 1987, New Mexico State University.

Goss, L. Blaine, Professor, Communication Studies; Ph.D. 1971, Michigan State University.

Goss, Ryan M., Assistant Professor, Plant and Environmental Sciences; M.S. 2000, Michigan State University.


Graham, Curtis C., Professor, Accounting and Business Computer Systems; Ph.D. 1968, University of Oklahoma.

Grasswitz, Tessa R., Assistant Professor, Entomology; Ph.D. 1992, University of California-Riverside

Gray, Samuel R., Assistant Professor, Management; Ph.D. 1993, Texas A&M.

Gray, Tara, Associate Professor, Criminal Justice; Ph.D. 1998, Oklahoma State University.

Green, Norris B., College Assistant Professor, Industrial Engineering; M.S. 1982, New Mexico State University.

Green, William, Associate Professor, Art; M.F.A. 1987, University of Michigan/Ann Arbor.

Greene, Dana, Assistant Professor, Criminal Justice; Ph.D. 2005, Graduate Center of the University of New York

Gregory, W. L., Professor, Psychology; Ph.D. 1981, Arizona State University.

Gregware, Peter R., Associate Dean, College of Arts & Sciences, Academic Department Head, Associate Professor, Criminal Justice; Ph.D. 1990, Arizona State University.

Greyshields, Lisa, Assistant Professor, Counseling & Ed Psychology; Ph.D. 2000, University of Nevada, Reno.

Grover, Kulbhushan K., Assistant Professor, Agronomy, Ph.D. 2008; Pennsylvania State University

Gunapala, Nirmala, Assistant Professor, Library, Ph.D. 1994, University of California-Davis

Gustafson, John, Assistant Professor, Biology; Ph.D. 1994, Universität Zürich.

Gutschick, Vincent, Professor, Biology; Ph.D. 1972, California Institute of Technology.

Guyon, Melissa J., Assistant Professor, Psychology; Ph.D. 2000, University of New Mexico.

Hacker, Kenneth Lee, Associate Professor, Communication Studies; Ph.D. 1986, University of Oregon.

Hadfield, O. D., Associate Professor, Curriculum and Instruction; Ed.D. 1986, Northern Arizona University.

Hagelin, Sarah M., Assistant Professor, English; Ph.D. 2007, University of Virginia.

Hagevoort, Robert G., Assistant Professor, Cooperative Extension; Ph.D. 1993, Texas A&M University.

Halford, Dennis M., Professor, Animal and Range Sciences; Ph.D. 1975, Oklahoma State University.

Hamilton, Wendy, Professor, Cooperative Extension; Ph.D. 1991, Montana State University.

Hammond, Kenneth J., Associate Professor, History; Ph.D. 1994, Harvard University.

Hampton, Gerald M., Academic Department Head, Professor, Marketing and General Business; Ph.D. 1973, University of Washington.

Hanagan, Michael J., Assistant Professor, Cooperative Extension; M.S. 1991, New Mexico State University.

Hange, Jacqueline S., Assistant Professor, Cooperative Extension; M.A. 2002, New Mexico State University.

Hanley, Kathryn A., Assistant Professor, Biology; Ph.D. 1994, University of California/San Diego.

Hansen, Immo A., Assistant Professor, VP Research; Biocluster

Hanson, Adrian, Professor, Civil, Agricultural, and Geological Engineering; Ph.D. 1989, Iowa State University; Registered Professional Engineer.

Hanson, Stephen F., Assistant Professor, Entomology, Plant Pathology, and Weed Science; Ph.D. 1997, University of Wisconsin/Madison.

Hardy, Harry C., Professor, Mechanical Engineering; Ph.D. 1966, University of Texas/Austin.

Harding, John, Professor, Mathematical Sciences; Ph.D. 1991, McMaster University.

Harley, Roger T., Associate Professor, Computer Science; Ph.D. 1974, Brunel University.

Harvey, Neil F., Associate Professor, Government; Ph.D. 1990, University of Essex.

Hawkins, Dean E., Associate Professor, Animal and Range Sciences; Ph.D. 1990, Texas A&M University.

Haynes, Jeannette L., Assistant Professor, Curriculum and Instruction; Ph.D. 1997, University of New Mexico.

He, Jing, Assistant Professor, Computer Science; Ph.D. 2001, Baylor College of Medicine.

Headrick, R. Wayne, Professor, Accounting and Business Computer Systems; Ph.D. 1978, University of Missouri/Rolla.

Hearn, Thomas M., Associate Professor, Physics; Ph.D. 1985, California Institute of Technology.

Heerema, Richard J., Assistant Professor, Cooperative Extension; Ph.D. 2005, University of California.

Herndon, James W., Associate Professor, Chemistry and Biochemistry; Ph.D. 1983, Princeton University.

Hills, Richard G., Associate Dean/Director, Professor, Mechanical Engineering; Ph.D. 1979, New Mexico State University.

Hoke, Mary, Academic Department Head, Associate Professor, Nursing; Ph.D. 1999, New Mexico State University.

Holcet, Jerry, Professor, Animal and Range Sciences; Ph.D. 1979, Oregon State University.

Holley, C. Wesley, Professor, Agricultural and Extension Education; Ed.D. 1980, Oklahoma State University.

Holtzman, Jon A., Associate Professor, Astronomy; Ph.D. 1989, University of California/Santa-Cruz.

Horan, Stephen, Academic Department Head, Professor, Kipsch School of Electrical and Computer Engineering; Ph.D. 1984, New Mexico State University.

Horodovich, Elizabeth A., Associate Professor, History; Ph.D. 2000, University of Michigan.

Horowitz, Mark L., Assistant Professor, Sociology & Anthropology; Ph.D. 2004, University of Kansas.

Houde, Peter, Associate Professor, Biology; Ph.D. 1985, Howard University.

Howard, Daniel J., Academic Department Head, Professor, Biology; Ph.D. 1985, Yale University.

Howard, Volney W., Jr., Professor, Fishery and Wildlife Sciences; Ph.D. 1969, University of Idaho.

Howell, Jon P., Professor, Management; Ph.D. 1973, University of California/Irvine.

Huang, Hong, Assistant Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 2002, Georgia Institute of Technology.

Huang, Kun, Assistant Professor, Government; Ph.D. 2005, University of Arizona.

Hubbell, Anne P., Assistant Professor, Communication Studies; Ph.D. 2000, Michigan State University.

Huber, Charles H., Professor, Counseling and Educational Psychology; Ph.D. 1979, University of South Carolina.

Huerta, Luis C., Assistant Professor, Curriculum and Instruction; Ph.D. 2003; New Mexico State University.

Huhmann, Bruce A., Assistant Professor, Marketing and General Business; Ph.D. 1998, University of Alabama.

Humada-Ludeke, Amalia, Associate Professor, Educational Management; Ed.D. 2005, Arizona State University

Hummel, Jon, Associate Professor, History; Ph.D. 1996, University of New Mexico.

Hurd, Brian H., Assistant Professor, Agricultural Economics and Agricultural Business; Ph.D. 1992, University of California/Davis.

Hussain, Mohammed Y., Associate Professor, Health Science, Ph.D. 1974; University of Manchester United Kingdom

Hussman, Stephen J., Associate Professor, Library; M.A. 2002, University of Arizona.

Houston, Jessica P., Assistant Professor, Chemical Engineering Ph.D. 2005; Texas A&M University.

Huang, Yu-Li, Assistant Professor, Industrial Engineering; Ph.D. 2009; University of Michigan/Ann Arbor

Huttinger, Kathleen, Professor, Nursing; Ph.D. 1988, University of Arizona.

Hyde, Anthony, Professor, Engineering Technology; M.S., 1991, University of Texas/El Paso.

Hyman, Michael Richard, Professor, Marketing and General Business; Ph.D. 1984, Purdue University.

Idris, Rola L., Professor, Civil, Agricultural, and Geological Engineering; Ph.D. 1991, New Mexico State University.

Ivory, Gary M., Academic Department Head, Associate Professor, Educational Management and Development; Ed.D. 1982, Texas Tech University.
Lynch, Stephanie Rose, Nursing, MS 2006; New Mexico State University
Lyons, Albert, Professor, Cooperative Extension; M.S. 1977, New Mexico State University.
Lyons, Barbara A., Assistant Professor, Chemistry/Biochemistry; Ph.D. 1989, Cornell University.
Ma, Ou, Associate Professor, Mechanical Engineering; Ph.D. 1991, McGill University.
MacDonald, Justin, Assistant Professor, Psychology; Ph.D. 2003, Purdue University.
MacGregor-Mendoza, Patricia, Associate Professor, Languages and Linguistics; Ph.D. 1995, University of Illinois/Urbana.
Mack, Greg, Professor, Geological Sciences; Ph.D. 1977, Indiana University/Bloomington.
Madison, Laura J., Associate Professor, Psychology; Ph.D. 1996, Iowa State University.
Muhle, Bernhard, Assistant Professor, Cooperative Extension; M.S. 1990, NMSU
Mahaffy, Mardi, Assistant Professor, Library; M.L.S. 1990, Indiana University.
Malamud, Margaret I., Associate Professor, History; Ph.D. 1990, University of California/Berkeley.
Mandabach, Keith H., Associate Professor, School of Hotel, Restaurant & Tourism Management; Ph.D. 1998, University of Houston.
Manning, Michael R., Professor, Management; Ph.D. 1979, Purdue University/Lafayette.
Marz, Leigh Ann, Assistant Professor, Cooperative Extension; M.A. 2003, New Mexico State University.
Mariani, Maria C., Assistant Professor, Mathematical Sciences; Ph.D. 1992, University of Buenos Aires.
Marks, Michael, Assistant Professor, Psychology; Ph.D. 2006, University of Illinois/Urbana, Champaign.
Marais, Mark A., Assistant Professor, Cooperative Extension; Ph.D. 2004, Texas Tech University.
Martin, Kenneth J., Professor, Finance; Ph.D. 1987, Purdue University.
Martin, Michael V., President, Professor, Economics; Ph.D. 1977, University of Minnesota.
Martinez, Karim A., Assistant Professor, Cooperative Extension; M.S. 2002, New Mexico State University.
Mathis, Clay, Associate Professor, Cooperative Extension; Ph.D. 1988, Kansas State University.
Mattea, Benjamin N., Professor, Economics and International Business; Ph.D. 1979, University of Texas/Austin.
Maud, Peter, Academic Department Head, Professor, Physical Education, Recreation, and Dance; Ph.D. 1974, University of New Mexico.
Maupin, James R., Academic Department Head, Associate Professor, Criminal Justice; Ph.D. 1990, Arizona State University.
Mayan, Carlos D., Assistant Professor, Agricultural Economics; M.S. 2004; Purdue University.
Mayhood, Gary W., Associate Professor, Library Technical Services Department; M.L.S. 1980, C.W. Post University.
Mays, G. Larry, Professor, Criminal Justice; Ph.D. 1979, University of Tennessee/Knoxville.
McArthur, William C., Associate Provost, Professor, Civil, Agricultural, and Geological Engineering; Ph.D. 1980, New Mexico State University; Registered Professional Engineer.
McClenaghan, Sean, Professor, Journalism and Mass Communications; Ph.D. 1979, University of Texas/Austin.
McCrossin, Monte L., Assistant Professor, Sociology and Anthropology; Ph.D. 1994, University of California/Berkeley.
McDonald, James E., Associate Professor, Psychology; Ph.D. 1981, New Mexico State University.
McFerrin, Randy, Assistant Professor, Economics and International Business; Ph.D. 1995, Texas A&M University.
McGuckin, J. T., Associate Professor, Economics and International Business; Ph.D. 1980, University of Wisconsin/Madison.
McIvey, Kevin C., Professor, English; M.F.A. 1980, University of Arizona.
McKee, Lisa J., Associate Professor, Family and Consumer Sciences; Ph.D. 1990, Texas Tech University.
McKimmie, Timothy, Associate Professor, Library Information Services Department; M.L.S. 1990, University of Arizona.
McMillan, Nancy J., Professor, Geosciences; Ph.D. 1986, Southern Methodist University.
McNamara, Bernard J., Professor, Astronomy; Ph.D. 1975, University of California/Santa Cruz.
McNeil, Keith A., Professor, Counseling and Educational Psychology; Ph.D. 1967, University of Texas/Austin.
McNelis, Kevin L., Assistant Professor, Accounting and Business Computer Systems; Ph.D. 1996, University of Texas/Arlington.
McQuitty, Shaun J., Associate Professor, Marketing and General Business; Ph.D. 1996, University of Alberta.
Medina, Christina A., Assistant Professor, Government; Ph.D. in progress, University of Colorado/Denver.
Mellendorf, Kevin D., Assistant Professor, Accounting and Business Computer Systems; Ph.D. 2004, University of Arizona.
Mellen, Roger, Assistant Professor, Journalism and Mass Communication, Assistant Professor, Ph.D. 2007; George Mason University
Mercado, Maria D., Associate Professor, Curriculum and Instruction; Ph.D. 1999, University of New Mexico.
Merta, Rod, Associate Professor, Counseling and Educational Psychology; Ph.D. 1989, University of Nebraska/Lincoln.
Metzer, Jerald W., Associate Professor, Cooperative Extension; M.A. 1997, New Mexico State University.
Moxal, John G., Professor, Plant and Environmental Sciences; Ph.D. 1974, Colorado State University.
Milligan, Brook G., Professor, Biology; Ph.D. 1985, University of California/Davis.
Miller, Elizabeth A., Assistant Professor, Library, M.S. 1997; University of Wisconsin-Milwaukee.
Mills, Sherry K., Professor, Accounting and Business Computer Systems; Ph.D. 1980, Texas Tech University.
Mitchell, Martha C., Academic Department Head, Associate Professor, Chemical Engineering; Ph.D. 1998, University of Minnesota.
Mitra, Joydeep, Associate Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1997, Texas A&M University/Colege Station.
Molloy, Molly E., Associate Professor, Library Information Services Department; M.L.S. 1990, Louisiana State University.
Montagno, Delo, Professor, Health Science; D.P.H. 1984, University of California/Berkeley.
Monger, H. Curtis, Professor, Plant and Environmental Sciences; Ph.D. 1990, New Mexico State University.
Montanez, Marcel, Assistant Professor, Family and Consumer Science; Ph.D. 2004, Ohio State University.
Mora-Monge, Carlo A., Assistant Professor, Accounting and Business Computer Systems; M.S. 2001, University of Toledo.
Morandi, Patrick, Professor, Mathematical Sciences; Ph.D. 1988, University of California/San Diego.
Morehead, Michael A., Associate Dean, College of Education, Professor, Curriculum and Instruction; Ed.D. 1978, University of Missouri.
Morgan, Eric L., Assistant Professor, Communication Studies; Ph.D. 2002, University of Massachusetts/Amherst.
Morgan, Wanda A., Associate Professor, Family and Consumer Sciences; Ph.D. 1990, Texas Woman’s University.
Morrell, Michael, Assistant Professor, Engineering Technology; M.A. 2000, Brandeis University.
Moulton, Robert D., Dean, College of Education, Professor, Special Education/Communication Disorders; Ph.D. 1974, Michigan State University.
Mueller, Jerry E., Professor, Geography; Ph.D. 1973, Johns Hopkins University.
Mullen, John P., Associate Professor, Industrial Engineering; Ph.D. 1994, Iowa State University.
Mullins, Gregory L., Academic Department Head, Professor, Plant & Environmental Sciences; Ph.D. 1985, Purdue University.
Mullins, Iris L., Assistant Professor, Nursing; Ph.D. 2003; Georgia State University.
Musson-McGee, Stuart H., Professor, Chemical Engineering; Ph.D. 1982, University of Delaware.
Murphy, James R., Academic Department Head, Associate Professor, Astronomy; Ph.D. 1991, University of Washington.
Murray, Leigh W., Professor, Economics and International Business; Ph.D. 1981, Virginia Polytechnic Institute and State University.
Murrel, Angela N., Assistant Professor, Library; M.S. 2002, Louisiana State University.
Nakotte, Heinrich, Assistant Professor, Physics; Ph.D. 1994, University of Amsterdam.
Navarro, Rachel L., Assistant Professor, Counseling and Ed. Psychology; Ph.D. 2005, University of Missouri-Columbia.
Nealkease, Jennifer, Curriculum and Instruction, Ph.D 2008, Arizona State University.
Nelson, James A., Associate Professor, Accounting and Business Computer Systems; Ph.D. 1975, University of Missouri/Columbia.
Realivasquez, Rafael, Assistant Professor, Cooperative Extension; M.S. 2006, Sul Ross State University.

Remmenga, Marta D., Associate Professor, Economics and International Business; Ph.D. 1992, Kansas State University.

Reyes, Loui V., Assistant Professor, Curriculum and Instruction; Ph.D. 1997, New Mexico State University.

Rein, Deborah, Assistant Professor, Special Education and Communication Disorders; Ph.D. 2003, University of Arizona/Tucson.

Rhodes, Robert, Academic Department Head, Associate Professor, Special Education and Communication Disorders; Ph.D. 1994, University of South Florida.

Ricketts, Craig J., Associate Professor, Engineering Technology; Ph.D. 1992, University of Karlruhe.

Ricketts, Paul, Professor, Engineering Technology; M.S. 1987, University of Texas/El Paso.

Rice, James, Assistant Professor, Sociology and Anthropology; Ph.D. 2006, Washington State University.

Rice, Julie, Assistant Professor, Sociology and Anthropology; Ph.D. 2008, Washington State University/Pullman.

Rico, Guillermo, Associate Professor, Engineering Technology; Ph.D. 1989, New Mexico State University.

Robinson, James, Professor, Health Science; Ed.D. 1980, University of Northern Colorado.

Robbins, Leslie, Assistant Professor, Nursing; M.S. 1989, University of Texas/El Paso.

Rockstraw, David A., Professor, Chemical Engineering; Ph.D. 1989, University of Oklahoma.

Roditti, Martha G., Assistant Professor, School of Social Work; Ph.D. 2003, Case Western Reserve University.

Rodriguez, Roy C., Assistant Professor, School of Social Work; Ph.D. 2009, Stanford University.

Rutledge, David W., Assistant Professor, Curriculum and Instruction; Ph.D. 2002, University of Colorado/Boulder.

Ryberg, Jacalyn, Associate Professor, Nursing; M.A. 1977, University of Iowa.

Salamanca-Riba, Susana, Associate Professor, Mathematical Sciences; Ph.D. 1988, Massachusetts Institute of Technology.

Salas, Loretta, Assistant Professor, Special Education/Communication Disorders; Ed.D. 1998, New Mexico State University.

Sallee, Alvin L., Professor, School of Social Work; M.S.W. 1974, Arizona State University.

Samani, Zohrab A., Professor, Civil and Geotechnical Engineering; Ph.D. 1983, Utah State University; Registered Professional Engineer.

Samms, Theodore W., Professor, Plant and Environmental Sciences; Ph.D. 1974, University of Arizona.

Sanderson, Robert, Associate Professor, Entomology, Plant Pathology, and Weed Science; Ph.D. 1982, Cranfield Institute of Technology, England.

Sanogo, Soumaia, Assistant Professor, Entomology, Plant and Weed Science; Ph.D. 1995, Pennsylvania State University.

Sankaran, Harikumar, Associate Professor, Finance; Ph.D. 1987, University of Houston.

Sauter, Elise Truly, Associate Professor, Marketing and General Business; Ph.D. 1990, Florida State University.

Savage, Todd A., Assistant Professor, Counseling and Educational Psychology; Ph.D. 2002, University of Kentucky.

Schickedanz, Jerry G., Dean and Chief Administrator, Officer, College of Agriculture and Home Economics, Professor; Ph.D. 1974, University of Arizona.

Schirmer, Elizabeth, Assistant Professor, English; Ph.D. 2001, University of California/Berkeley.

Schneider, Ingrid, Assistant Professor, Library, MLS 2008, Indiana University.

Schroeder, Jill, Professor, Entomology, Plant Pathology, and Weed Science; Ph.D. 1985, University of Georgia.

Schultz, Pam, Associate Professor, Nursing; Ph.D. 2002, Texas Woman's University.

Scoccia, Danny, Associate Professor, Philosophy; Ph.D. 1985, University of California/Davis.

Scott, Patrick B., Acting Director, Educational Research Center, Professor, Curriculum and Instruction; Ed.D. 1980, Columbia University.

Scott, William, Assistant Professor, English; Ph.D. 2002, Johns Hopkins University.

Scribner, Edmund A., Professor, Accounting and Business Computer Systems; Ph.D. 1985, Oklahoma State University.

Seeforw, Brenda S., Professor, Agricultural and Extension Education; Ph.D. 1980, Ohio State University.

Seipel, Cindy, Associate Professor, Accounting and Business Computer Systems; Ph.D. 1990, Oklahoma State University.

Serrano, Elba, Associate Professor, Biology; Ph.D. 1983, Stanford University.

Sevastianov, Igor, Assistant Professor, Mechanical Engineering; Ph.D. 1993, St. Petersburg University, Russia.

Shashikanth, Banavara N., Assistant Professor, Mechanical Engineering; Ph.D. 1996, University of Southern California.

Shearer, James E., Associate Professor, Music; D.M.A. 1990, Eastman School of Music.

Sheppard, Jennifer, Assistant Professor, English; Ph.D. 2003, Michigan Technological University.

Shukla, Manoj K., Assistant Professor, Plant and Environmental Sciences; Ph.D. 2007, University of Agricultural Sciences.

Shuster, Charles, Assistant Professor, Biology; Ph.D. 1996, Tufts University.

Michelle Schuster, Assistant Professor, Biology; Ph.D. 1994; Tufts University Sackler School of Medicine.

Simon, Dominic A., Assistant Professor, Psychology; Ph.D. 1997, University of California/Los Angeles.

Simons, Krista D., Assistant Professor, Curriculum & Instruction; Ph.D. 2003, Arizona State University.

Sizemore, Mary, Assistant Professor, Nursing; Ed.D. 1979, Nova University.

Skaggs, Rhonda, Professor, Agricultural Economics and Agricultural Business; Ph.D. 1990, Utah State University.

Smallidge, Samuel T., Instructor, Cooperative Extension; Internal Promotion.

Smirnov, Sergei N., Assistant Professor, Chemistry and Biochemistry; Ph.D. 1987, Physica Novosibirsk State University, Russia.

Smith, Barry D., Professor, Finance; Ph.D. 1983, University of Pennsylvania.

Smith, Carmen Gimenez, Assistant Professor, English; M.A. 1997, University of Iowa.

Smith, David W., Professor, Economics and International Business; Ph.D. 1971, Texas A&M University.

Smith, David E., Associate Professor, Chemistry and Biochemistry; Ph.D. 1989, University of California/Berkeley.

Smith, Geoffrey B., Professor, Biology; Ph.D. 1989, North Carolina State University.

Smith, Jeanette C., Professor, Library Information Services; M.A. 1973, University of Minnesota/Minneapolis.

Smith, Jeremy, Assistant Professor, Chemistry and Biochemistry; Ph.D. 1996, University of Witwatersrand.

Smith, Timothy T., Associate Professor, Theatre Arts; M.A. 1994, University of Missouri.

Smith, William L., Assistant Professor, Accounting and Business Computer Systems; Ph.D. 2004, New Mexico State University.

Smits, Robert G., Assistant Professor, Mathematical Sciences; Ph.D. 1986, Massachusetts Institute of Technology.
Smolleck, Howard A., Assistant Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1975, University of Texas/Arlington; Registered Professional Engineer.

Sohn, Hansuk, Assistant Professor, Industrial Engineering; Ph.D. 2004, University of Iowa.

Song, Minzou, Assistant Professor, Computer Science; Ph.D. City University of New York.

Soto-Navarro, Sergio, Assistant Professor, Animal and Range Sciences; Ph.D. 1998, New Mexico State University.

Spitzer, Laura, Assistant Professor, Music; Ph.D. 2000, University of Southern California.

St Aulbyn, Jacklyn, Assistant Professor, Art; M.F.A. 1991, New Mexico State University.

Staehle, Michael L., Associate Professor, Music; Ph.D. 1989, University of California/San Diego.

Stafford, Ross, Academic Department Head, Professor, Mathematical Sciences; Ph.D. 1977, University of California/Berkeley.

Stanford, Charles B., Assistant Professor, Library; MLIS 2006, University of Pittsburgh.

Stanford, M. Lois, Associate Professor, Sociology and Anthropology; Ph.D. 1989, University of Florida.

Stanford, Theodore B., Associate Professor, Mathematical Sciences; Ph.D. 1993, Columbia University.

Starbuck, Cara M., Assistant Professor; Economics; Ph.D. 2003, University of New Mexico.

Staski, Edward, Professor, Sociology and Anthropology; Ph.D. 1983, University of Arizona.

Steiner, Robert L., Professor, Economics and International Business; Ph.D. 1993, Oklahoma State University.

Sterling, Tracy M., Professor, Entomology, Plant Pathology, and Weed Science; Ph.D. 1988, University of Wisconsin/Madison.

Stevens, Kenny A., Associate Professor, Engineering Technology; M.S. 1990, New Mexico State University.

Stevens, Rachel Brent, Associate Professor, Art; M.F.A. 1993, Syracuse University.

Stevenson, Leah H., Assistant Professor, Cooperative Extension; M.S. 2005, New Mexico State University.

Stochaj, Steven Jon, Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1990, University of Maryland.

Storm, William, Assistant Professor, Theatre Arts; Ph.D. 1995, University of California.

Stout, Connie E., Associate Professor, Special Education/Communication Disorders; Ph.D. 1989, University of Oklahoma.

Swanson, Irena, Professor, Mathematical Sciences; Ph.D. 1992, Purdue University.

Sweezy, Caroline, Associate Professor, Mathematical Sciences; Ph.D. 1986, University of California/Los Angeles.

Taggart, William A., Professor, Government; Ph.D. 1992, Florida State University.

Tator, Kyle, Assistant Professor, Cooperative Extension; B.S. 2005, New Mexico State University.

Taylor, David, Assistant Professor, Art; M.F.A. 1994, University of Oregon.

Taylor, Stephanie L., Assistant Professor, Art; Ph.D. 2001, Boston University.

Teich, Jeffrey, Associate Professor, Management; Ph.D. 1991, State University of New York/Buffalo.

Teller, Patricia J., Assistant Professor, Computer Science; Ph.D. 1991, New York University Courant Institute of Mathematical Sciences.

Thatcher, Barry, Associate Professor, English; Ph.D. 1997, Purdue University.

Thayer, Frank, Academic Department Head, Assistant Professor, Journalism and Mass Communications; Ph.D. 1992, New Mexico State University.

Thomas, Jack D., Professor, Animal and Range Sciences; Ph.D. 1980, University of Missouri.

Thomas, Milton G., Assistant Professor, Animal and Range Science; Ph.D. 1994, Texas A&M.

Thomas, Stephen H., Professor, Entomology, Plant Pathology, and Weed Science; Ph.D. 1980, Iowa State University.

Thompson, David C., Associate Professor, Entomology, Plant Pathology, and Weed Science; Ph.D. 1988, Colorado State University.

Thompson, Laura A., Professor, Psychology; Ph.D. 1987, University of California, Santa Cruz.

Thompson, Wiley E., Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1968, Michigan State University.

Thropp, Heather, Assistant Professor, Biology; Ph.D. 2002, State University of NY at Stony Brook.

Tian, Kelly L., Associate Professor, Marketing and General Business; Ph.D. 1991, Georgia State University.

Titus, Elizabeth A., Dean, Library, Professor; Ph.D. 1998, Northern Illinois University.

Tooming, Tracey, Assistant Professor, English; Ph.D. 2002, Yale University.

Torell, L. Allen, Professor, Agricultural Economics and Agricultural Business; Ph.D. 1984, Utah State University.

Torres, Ivoine M., Assistant Professor, Marketing and General Business; Ph.D. 2004, University of Houston.

Torres, Monica, Assistant Professor, English; Ph.D. 2002, University of New Mexico.

Torres, Myriam N., Assistant Professor, Curriculum and Instruction; Ph.D. 1995, University of New Mexico.

Torres, Patrick, Professor, Cooperative Extension; M.A. 1988, New Mexico State University.

Townley, Charles T., Professor, Library; Ph.D. 1983, University of Michigan.

Trafimow, David A., Professor, Psychology; Ph.D. 1993, University of Illinois.

Tran, Son Cao, Assistant Professor, Computer Science; Ph.D. 2000, University of Texas/El Paso.

Trevathan, Wenda R., Professor, Sociology and Anthropology; Ph.D. 1980, University of Colorado.

Trujillo, Teresa M., Associate Professor, Cooperative Extension; M.A. 2004, New Mexico State University.

Turner, P. Larry, Associate Professor, Accounting and Business Computer Systems; Ph.D. 1990, Oklahoma State University.

Turner, Christina, Assistant Professor, Cooperative Extension; M.A. 2005, New Mexico State University.

Turner, Jason L., Assistant Professor, Animal and Range Sciences; Ph.D. 2001; Kansas State University.

Uchanski, Mark E., Assistant Professor, Agronomy & Horticulture; Ph.D. 2007; University of Illinois.

Unc, Adrian, Assistant Professor, Agronomy & Horticulture; Ph.D. 2002; University of Guelph, Ontario; Soil Science.

Unguez, Gracila A., Assistant Professor, Biology; Ph.D. 1995, University of California/Los Angeles.

Uelry, April, Associate Professor, Plant and Environmental Sciences; Ph.D. 1992, University of California/Berkeley.

Urquidi, Jacob, Assistant Professor, Physics; Ph.D. 2001, Texas Tech University/Lubbock.

Valdez, Alfred, Assistant Professor, Special Ed/Comm Disorders, M.S. 1974; University of New Mexico.

Valdez, Carlos F., Assistant Professor, Cooperative Extension; M.A. 1996, New Mexico State University.

Valdez, Raul, Professor, Fisheye and Wildlife Sciences; Ph.D. 1970, Texas A&M University.

Valentine, Kathryn, Assistant Professor, English; Ph.D. 2003, Michigan Technological University.

Valko, Theresa, Assistant Professor, Library; MS 2002, Wayne State University.

Valles-Rosas, Delia J., Assistant Professor, Industrial Engineering; Ph.D. 2001, New Mexico State University.

Van Winkle, Kenneth D., Associate Professor, Music; M.M. 1982, North Texas State University.

Van Winkle, Lisa K., Instructor, Music; M.S. 1996, New Mexico State University.

VanLeeuwen, Dawn, Professor, Agricultural and Extension Education; Ph.D. 1993, Oregon State University.

Vasiliav, Igor V., Assistant Professor, Physics; Ph.D. 2000, University of Minnesota.

Vasquez, Enedina Garcia, Associate Professor, Counseling and Educational Psychology; Ph.D. 1990, University of Iowa.

Vazquez, Luis A., Department Head, Professor, Counseling and Educational Psychology; Ph.D. 1990, University of Iowa.

Vessell, Jean-Paul, Assistant Professor, Philosophy; Ph.D. 2003, University of Massachusetts/Amherst.

Verser, Rebecca, Assistant Professor, Communication Studies; M.A. 2001, University of Arkansas/Fayetteville.

Viers, Jarod A., Assistant Professor, Cooperative Extension; M.S. 1994, University of Florida.

Villa, Daniel, Assistant Professor, Languages and Linguistics; Ph.D. 1992, University of New Mexico.

Villalba, John G., Assistant Professor, Cooperative Extension; M.A. 2005, NMSU.

Villanueva-Joyce, Esperanza, Professor, Nursing; MSN 1976, University of Texas, San Antonio; Ed.D. 1985, Nova Southeastern University.

Villaverde, Karen, Assistant Professor, Computer Science; Ph.D. 2003, New Mexico State University.

Vonk, David G., Associate Professor, Klipsch School of Electrical and Computer Engineering; Ph.D. 1997, University of Illinois.
Willman, Elliott, Professor, Economics and International Business; Ph.D. 1977, Indiana University/Bloomington.
Wilson, Cheryl N., Interim Associate Dean, Associate Professor, Library Collection Management Department; M.A.L.S. 1971, University of Oklahoma.
Wilson, Susan L., Associate Professor, Health Science; Ph.D. 1982, Southern Methodist University.
Wilson, Vera Aurelia-An, Assistant Professor, Cooperative Extension; M.B.A. 2007, New Mexico State University.
Winfree, Latham Thomas, Professor, Criminal Justice; Ph.D. 1976, University of Montana.
Winn, Derrell G., Assistant Professor, Cooperative Extension; M.A. 1988, New Mexico State University.
Winn, Russell G., Associate Professor, Government; D.D.A. 1985, Arizona State University.
Wise, Mark, Academic Department Head, Professor, Animal and Range Science; Ph.D. 1981, University of Nebraska.
Wisner, Robert J., Professor, Mathematical Sciences; Ph.D. 1953, University of Washington.
Whitesey-Jerome, Wanda, Assistant Professor, Social Work; Ph.D. 1997, University of Texas at Arlington.
Wojahn, Patricia, Associate Professor, English; Ph.D. 1999, Carnegie Mellon University.
Wolf, Mary Ellen, Associate Professor, Languages and Linguistics; Ph.D. 1983, Rice University.
Wood, M. Karl, Director, Water Resources Research Institute, Professor, Animal and Range Sciences; Ph.D. 1978, Texas A&M University.
Wood, Robert H., Professor, Phys Ed/Recreation, Ph.D 1986, Louisiana State University-Baton Rouge.
Woodward, Clinton B., Jr., Professor, Civil and Geological Engineering; Ph.D. 1986, New Mexico State University.
Wosick-Correia, Kassia R., Assistant Professor, Sociology and Anthropology, Ph.D 2007; University of California
Wright, John B., Academic Department Head, Professor, Geography; Ph.D. 1990, University of California/Berkeley.
Wright, Timothy F., Assistant Professor, Biology; Ph.D. 1997, University of California/San Diego.
Wurm, Kurt B., Assistant Professor, Surveying; Ph.D. 2002, University of Maine.
Xu, Jiannong, Associate Professor, Medical Parasitology & Entomology; Ph.D. 1993, Second Military Medical University Shanghai, China.
Young, Michael, Professor, Health Science, Ph.D., Texas A&M University.
Zakahi, Walter R., Academic Department Head, Professor, Communication Studies; Ph.D. 1982, Bowling Green State University.
Zarur, Elizabeth Netto Cal, Associate Professor, Art; Ph.D. 1989, University of Georgia.
Zhang, Jinfa, Associate Professor, Plant and Environmental Sciences; Ph.D. 1999, University of Arkansas.
Zoski, Cynthia G., Associate Professor, Chemistry/ Biochemistry; Ph.D. 1985, Queen's University.
Breding, Connie J., Associate Professor, Theatre, English; M.A. 1993, University of North Dakota.
Burt, R. Andrew, Assistant Professor, English; M.A. 1988, Emporia State University.
Cook, Susan, Assistant Professor, Regular Academic Instruction; M.A. Troy State University.
Cruz, Raul A., Instructor, Math, Science, and Technology; M.S. 1998, University of Texas/El Paso.
Delgado, Janet, Instructor, Regular Academic Instruction; M.S., New Mexico Highlands University.
Diehl, Loretta H., Assistant Professor, Occupational and Vocational Instruction; M.S.N., University of Texas/El Paso.
Douville, Patricia J., Associate Professor, Nursing; M.A. 1991, University of Texas/El Paso.
Elser, Glenda W., Instructor, Regular Academic Instruction; M.S. 1998, Montana State University/Bozeman.
Eydenberg, Francis M., Associate Professor, Computer Science; M.S. 1983, University of Southern California.
Eydenberg, Kathryn M., Instructor, Occupational and Vocational Instruction; M.S.N., University of Texas/El Paso.
Fleischmann, Sandra, Assistant Professor, Nursing Education, M.S 2008; University of Phoenix.
Flores, Kathy A., Professor, Art; M.A. 1979, New Mexico State University.
Fritze, Linda E., Assistant Professor, Nursing; B.S. 1979, Pittsburgh State University.
Gallagher, James D., Assistant Professor, Communications; Ph.D. 1994 University of Washington.
Gonzalez-Gonzalez, Jose M., Assistant Professor, Spanish; M.A. 1991, New Mexico State University.
Grundhoffer, Elizabeth L., Instructor; M.A. 2003, New Mexico State University.
Haley, John D., Associate Professor, History; M.A. 1990, New Mexico State University.
Hill, Joyce A., Instructor, Early Childhood Special Education; Ph.D. 2004, New Mexico State University.
Holmes, Steven, Assistant Professor, Occupational and Vocational Instruction; B.S., New Mexico State University.
Irving, Sara, Assistant Professor, Occupational and Vocational Instruction; M.F.A., New Mexico State University.
Kotila, Gregg G., Assistant Professor, Emergency Medicine; A.A. 1994, Eastern New Mexico University/Ruidoso.
Lockhart, William W., Associate Professor, Sociology; M.A. 1995, University of Texas/El Paso.
Lombrana, Jr., Vicente, Professor, Biology; Ph.D. 1992, New Mexico State University.
Mastenbrook, Ann, Instructor, Nursing; B.S.N. 1983, University of New Mexico.
McDonald, Alvin L., Professor, Vocational Studies-Legal Assistant; M.A. 1987, George Washington University.
McNeel, Ronald J., Professor, English; M.A. 1976, Northern Arizona University.
Mosley, Greg, College Associate Professor, Photography; M.S. 2000, Troy State University.
Nutt, James C., Professor, Electronic Technology; B.S. 1981, Chapman College.
Palmerhall, Juanita J., Assistant Professor, Education, Speech, and Drama; M.S. 1979, Iowa State University.
Placencio, Matthew A., Instructor, Information and Communication Technology; B.S., New Mexico State University.
Rano, S. Lea, Professor, Art; M.F.A. 1991, New Mexico State University.
Rascon, Kim T., Instructor, Liberal Arts; M.A. 1996, St. John's College.
Rico-Fernandez, Rosa, College Assistant Professor, Spanish; M.S. 1995, New Mexico State University.
Riodan, Sandra A., Assistant Professor, English; M.A. 1994, New Mexico State University.
Roark-Diehl, Kathy, Associate Professor, Regular Academic Instruction; M.A. 1992, New Mexico State University.
Rupe, Jarrod C., Assistant Professor, Math, Science, and Technology; M.B.A. 1990, University of Texas/El Paso.
Saenz, Maria M., Assistant Professor; M.A. 1999, New Mexico State University.
Skaar, Marcia J., Professor, Medical Laboratory Technology and Biology; M.S., New Mexico State University.
Skaar, Robert J., Associate Professor, Mathematics; M.A. 1990, New Mexico State University.
Spencer, Irene M., Assistant Professor, Occupational and Vocational Instruction; M.Ed., University of Texas/El Paso.
Trapp, Christine L., Instructor, Regular Academic Instruction; Ph.D., University of California - Davis.
Wakkinen, Wanda S., Instructor, M.A. 2004, New Mexico State University.
Webb, P. Frank, Associate Professor, Regular Academic Instruction; M.A., California State University/Fresno, M.A., Mennonite Brethren Bible Seminary.
Yancey, Bryan, Associate Professor; Occupational and Vocational Instruction; M.F.A. Claremont Graduate School.

NMSU—CARLSBAD
Beal, Shannon L., Assistant Professor, Nursing; B.S. 1994, New Mexico State University/Carlsbad.
Bickerstaff, Lynda, Professor, Nursing; M.S.N. 1992, University of Texas/El Paso.
Buckholz, Mark Alan, Associate Professor, English; M.F.A. 1976, Yale University.
Dinwiddie, Douglas M., Professor, Social Science; Ph.D. 1987, Northern Arizona University.
D' Mura, John M., Professor, Biology; M.A. 1978, Northern Arizona University.
Estrada, Claudia S., Assistant Professor, Nursing; B.S. 1997, New Mexico State University.
Gallegos, William A., Associate Professor, Mathematics; M.A. 1991, New Mexico State University.
Gish, Melissa R., Instructor, Regular Academic Instruction; M.F.A. 2000, Minnesota State University/Mankato.
Goad, Faith E., Instructor, Nursing; M.S. 2003, University of New Mexico.
Greenwood, Kathy L., Professor, English; Ph.D. 1980, Ohio State University.
Hardy, Russell F., Associate Professor, Division Head, Business/English; M.B.A. 1989, Eastern New Mexico University.
Hayes, Robyn, Instructor, Chemistry; M.S. 1989, University of Nebraska/Lincoln.
Jaco, Mary Ellen, Instructor, Nursing; M.A. 1989, New Mexico State University.
Landreth, David, Instructor
Lee, Myung R., Management Information Systems, MBA 1985, University of Wisconsin, Madison.
Lovelace, Margaret L., Professor, Psychology and Sociology; M.S. 1973, East Central University.
Lunsford, Pamela D., Instructor, Business Office Technology; M.S. 2001, Wayland Baptist University.
Lynn, Sandra D., Associate Professor, English; M.A. 1968, University of California/Berkley.
Kipnis, Tomas J., Instructor, Regular Academic Instruction; M.S. 1997, University of Oregon.
Nichols, Nita F., Instructor; M.A. 2006, New Mexico State University.
Niedland, Cynthia L., Media Arts Production, MFA 2000; City College of New York.
O'Neill, Erin, Assistant Professor; Ph.D. University of Louisiana, Lafayette.
Packer, Debra L., Associate Professor, Mathematics; M.A. 1996, Central Michigan University.
Rayroux, Carolyn J., Assistant Professor, Nursing; A.D.N. 1980, New Mexico State University.
Redford, David L., Assistant Professor, Criminal Justice/ Sociology; M.S. 1981, University of Illinois.
Rodgers, Thomas H., Professor, Business and Economics; M.Ed. 1976, Southwestern State College/Oklahoma.
Schnoor, Ruth Anne, Professor, English; M.A. 1989, Andrews University.
Sowers, Lynda B., Associate Professor, Nursing; M.S.N. 1992, University of Texas/El Paso.
Spering, Rick, Educational Psychology, Ph. D. 2007, University of TX-Austin.
Suggs, Deanna M., Professor, Nursing; M.S.N. 1991, University of Texas/El Paso.
Vuk, Melvin M., Campus Executive Officer, Professor; Ph.D. 1975, Oregon State University.
Wiedenmann, Richard T., Assistant Professor, Biology; M.S. 1991, Baylor University.
White, Evelyn B., Instructor, Educational Administration, Ed D. 2007, New Mexico State University.
Zimmerman, Andrew, Assistant Professor, Music, Doctor of Musical Arts 2008, University of Arizona.
Zuniga, Gina, Instructor, Nursing; B.S. 2005, New Mexico State University.

DONA ANA COMMUNITY COLLEGE
Adams, Michael L. Division Head, Technical Studies, Assistant Professor, Electronics; M.S. 1986, University of Southern California.
Aguilar-Goerner, Carmen, Assistant Professor, Education; M.S. 1988, Arizona State University.
Ahmad, Ali M., Associate Professor, Developmental Mathematics; Ph.D. 2000, New Mexico State University.
Alden, Donna, Professor, Developmental English; M.A. 1974, Oklahoma Baptist University.
Alldrich, Vickie J., Assistant Professor, Math and Physical Science; M.A. 1987, University of New Mexico.
Aranda, Jose, Instructor, Library & Info Science, M.A. 2003, University of South Florida.
Bagby, Richard J., (1968-2002), Professor and Associate Academic Department Head Emeritus of Mathematical Sciences, Ph.D. 1968, Rice University.


Barnes, Carl E., (1965-1999), Superintendent Emeritus of the Agricultural Science Center/Artesia and Professor Emeritus of Agronomy; M.S. 1960, New Mexico State University.

Barnes, Raymond M., (1964-1984), County Director Emeritus of Navajo Programs, San Juan County; M.S. 1964, Sam Houston State Teachers College.

Baron, David C., (1980-2001), Professor Emeritus of Accounting and Business Computer Systems; Ph.D. 1970, University of Illinois; C.P.A.

Barrera, Cecilio, (1975-1998), Associate Professor Emeritus of Biology; Ph.D. 1970, University of Texas/Austin.

Barrick, Kenneth R., (1949-1984), Professor Emeritus of Art; M.A. 1940, University of Iowa.


Beck, Allan H., (1946-1978), County Extension Agent Emeritus, Sierra County, Cooperative Extension Service; B.S. 1949, New Mexico State University.


Bhada, Rohinton, (1988-1999), Associate Dean Emeritus of Engineering, Professor and Department Head Emeritus of Chemical Engineering; Ph.D. 1968, University of Michigan/Ann Arbor.

Billington, Monroe L., (1968-1994), Professor Emeritus of History; Ph.D. 1955, University of Kentucky.


Black, Lorraine, (1965-1978), Associate Professor Emeritus of English, San Juan Branch; M.A. 1940, Duke University.


Blanton, Anita, (1976-2002), Director County Program Emerita, Cooperative Extension Service; M.S. 1989, University of New Mexico.


Bowers, Alphonso F., (1968-1983), Associate Professor Emeritus of Engineering Technology; M.S. 1962, New Mexico State University; Certified Engineering Technician, Professional Building Inspector.

Bradley, James V., (1968-1988), Professor Emeritus of Psychology; Ph.D. 1962, Purdue University.


Brown, Harold A., (1937-1970), Professor and Department Head Emeritus of Electrical and Computer Engineering; M.S.E.E. 1932, Oklahoma State University; Registered Professional Engineer.


Buchanan, Bruce A., (1971-1990), Associate Professor Emeritus of Agronomy and Horticulture; Ph.D. 1971, Montana State University.

Bullock, James H., (1978-1996), Professor and Department Head Emeritus of Accounting; Ph.D. 1974, Oklahoma State University.


Burleson, George, (1972-2000), Professor and Department Head Emeritus of Physics; Ph.D. 1960, Stanford University.


Butler, Oscar L., (1953-1980), Associate Professor Emeritus of Music; M.M.E. 1940, University of Kansas.


Cameran, Robert H., (1978-2001), Associate Professor Emeritus of Engineering Technology; M.S. 1968, University of Texas/E1 Paso.


Carlson, David C., (1977-2002), Associate Professor Emeritus of Marketing and General Business; Ph.D. 1975, University of Minnesota/Minneapolis.

Casillas, Edmund R., (1976-2002), Dean Emeritus, College of Arts and Sciences; Professor Emeritus, Chemistry and Biochemistry; Ph.D. 1968, Oregon State University.


Chavez, J. R., (1941-1973), County Agent Emeritus, Santa Fe County, Cooperative Extension Service; B.S. 1958, New Mexico State University.

Chen, Laura F., (1971-1998), Assistant Professor Emerita of Library Technical Services Department; M.S.L.S. 1965, Syracuse University.

Chen, Tuan Wa, (1968-1998), Professor Emeritus of Physics; Ph.D. 1966, Syracuse University.

Cherry, Myron E., (1967-1985), Associate Professor Emeritus of Engineering Technology; M.S. 1960, New York University.


Clemmons, Frankie D., (1971-1993), Assistant Dean Emerita of Business Administration and Economics, Director Emerita of undergraduate Business Administration and Economics Student Services, Associate Professor Emerita of Management; M.Ed. 1969, university of North Texas.


Clever, George, (1989-1999), Assistant Professor of Developmental Mathematics, Doña Ana Branch; Ed. M. 1968, State University of New York/Buffalo.


Corgan, Joe N., (1960-1996), Professor Emeritus of Agronomy and Horticulture; Ph.D. 1960, University of Missouri/Columbia.


Cuffey, James, (1966-1976), Professor Emeritus of Astronomy; Ph.D. 1938, Harvard University.


Cunningham, Gary, (1968-2001), Vice President Emeritus of Research and Associate Dean and Director Emeritus of the Agricultural Experiment Station and Professor Emeritus of Entomology, Plant Pathology, and Weed Science; Ph.D. 1968, University of California/Los Angeles.

Cunningham, Rachel, (1948-1975), County Extension Agent Emerita, Santa Fe County, Cooperative Extension Service; B.S. 1938, University of New Mexico.


Dahlgren, Fern E., (1972-1984), Assistant Professor Emerita of Nursing; M.A. 1979, New Mexico State University.

Davis, Charles A., (1957-1996), Professor Emeritus of Fishery and Wildlife Sciences; Ph.D. 1964, Oklahoma State University/Stillwater.


Davis, Lowery H., (1970-1988), Dean Emeritus, College of Human and Community Services; Professor Emeritus, Agricultural Extension Education; Ph.D. 1956, Ohio State University.

Daw, Harold A., (1960-1990), Professor Emeritus of Physics; Ph.D. 1956, University of Utah.


Dean, James W., (1965-1996), Associate Professor Emeritus of Agricultural and Extension Education; Ed.D. 1984, East Texas State University.

DeArmond, M. Keith, (1975-1996), Professor Emeritus of Chemistry and Biochemistry; Ph.D. 1972, University of Minneapolis.

Dempsey, Patricia A., (1986-1996), Professor Emerita of Nursing; Ph.D. 1975, Texas Women’s University.


Dix, William E., (1964-2002), Associate Dean and Department Emeritus, Cooperative Extension Service; M.S. 1972, New Mexico State University.

Dickson, Darlene S., (1990-2003), Extension Specialist Emerita, Cooperative Extension Service; M.Ed. 1971, Eastern New Mexico State University, Portales.

Dines, Margaret A., (1975-2005), Professor Emerita of Home Economics; M.S. 1978, Western New Mexico University.


Douglass, John C., (1968-1989), Associate Professor Emeritus of Chemistry, Alamogordo Branch; M.S. 1965, New Mexico State University.

DuBois Betty L., (1973-1983), Professor Emerita of Communications Studies; Ph.D. 1972, University of New Mexico.

Duffy, James W., (1973-2006), County Program Director and Professor Emeritus; M.S. 1979, New Mexico State University.


Dunlap, Ralph, (1950-1982), County Agent Emeritus, Cooperative Extension Service; M.S. 1966, New Mexico State University.


Eberhardt, LaDonna, (1979-1985), Associate Professor Emeritus of Nursing; M.S.N. 1971, University of Colorado.


Elizondo, Sergio D., (1972-1990), Professor Emeritus of Languages and Linguistics; Ph.D. 1964, University of North Carolina.


Erhard, Thomas A., (1960-1991), Professor Emeritus of Theater Arts; Ph.D. 1960, University of New Mexico.

Evans, Helen M., (1957-1970), State Supervisor Emerita (Women), Cooperative Extension Service; B.S. 1952, Western New Mexico University.


Finch, Paul R., (1976-1999), Associate Professor Emeritus of Industrial Engineering; Ph.D. 1979, University of Arizona.

Finkner, Morris D., (1954-1984), Professor and Department Head Emeritus of Experimental Statistics, Director Emeritus of University Statistics Center; Ph.D. 1952, North Carolina State University.

Finkner, Ralph E., (1966-1989), Professor Emeritus of Agricultural Experiment Station; Ph.D. 1953, Iowa State University.

Fisher, James T., Professor Emeritus of Agronomy and Horticulture; Ph.D. 1976, Colorado State University.


Flores-Hauge, Kathy A., (1977-2001), Professor Emerita of Art; M.A. 1979, New Mexico State University.

Ford, C. Quentin, (1959-1998), Associate Dean Emeritus, Engineering, Professor Emeritus, Mechanical Engineering; Ph.D. 1959, Michigan State University; Registered Professional Engineer.


Freeburg, Robert S., (1959-1988), Associate Professor Emeritus of Civil, Agricultural, and Geophysical Engineering; Ph.D. 1968, Colorado State University; Registered Professional Engineer, Registered Professional Land Surveyor.

Fuehring, Howard, (1969-1987), Professor Emeritus, Animal Science Center, Clovis; Ph.D. 1959, University of Nebraska.

Gabbi, Marianna, (1975-1999), Professor Emerita of Music; D.M.A. 1978, North Texas State University.


Gallegos, Robert L., (1976-1999), Acting Associate Dean Emeritus, Professor Emeritus of Curriculum and Instruction; Ph.D. 1974, University of New Mexico.


Gledhill, Vernal H., (1958-1981), Assistant Director Emeritus of Agricultural Experiment Station, Professor Emeritus of Experimental Statistics; Ph.D. 1958, North Carolina State University.


Greene, Charles H., (1963-1991), Division Director, New Mexico Department of Agriculture, Associate Professor Emeritus of Agricultural Economics and Agricultural Business; Ph.D. 1963, Oregon State University.


Gunaji, Narendra N., (1960-1986), Professor Emeritus of Civil, Agricultural, and Geological Engineering; Ph.D. 1958, University of Wisconsin/Madison; Registered Professional Engineer.

Haddock, Alice S., (1957-1982), District Director Emerita, Cooperative Extension Service; M.S. 1963, University of New Mexico.


Hall, Carl R., (1949-1982), Assistant to the President Emeritus, Associate Professor Emeritus of Agricultural Economics and Agricultural Business; M.S. 1949, University of Tennessee/Knoxville.

Hall, David C., (1957-1992), Associate Professor Emeritus of Experimental Statistics; Ph.D. 1970, New Mexico State University.

Hall, R. Clairece, (1958-1996), County Home Economist Emerita, Torrance County, Cooperative Extension Service; B.S. 1958, New Mexico State University.


Hanson, Eldon G., (1949-1979), Professor Emeritus of Civil, Agricultural, and Geodetic Engineering; M.S. 1948, Utah State University; Registered Professional Engineer.


Harris, Charles H., (1969-1996), Professor Emeritus of History; Ph.D. 1968, University of Texas/Austin.

Harris, Frances E., (1973-1998), Associate Professor Emerita of Nursing; M.A. 1976, New Mexico State University.

Hass, Frank F., (1972-1984), Professor Emeritus of Journalism and Mass Communications; Ph.D. 1972, University of Iowa.

Hay, Paul D., (1957-1987), District Program Director Emeritus; M.S. 1986, Oklahoma State University; Applied Science.

Hawkings, Clark A., (1986-1995), Professor Emeritus of Finance; Ph.D. 1984, Purdue University.


Hofmann, Robert V., (1973-1999), Professor Emeritus of Chemistry and Biochemistry; Ph.D. 1979, Case Western Reserve University.


Holguin, Francisco C., (1982-2005), Director of County Program and Assistant Professor Emeritus; M.A. 1989, New Mexico State University.


Maggard, Samuel P., (1963-1983), Professor Emeritus of Civil, Agricultural and Geological Engineering; Ph.D. 1963, Purdue University.


Martin, David W., (1964-1992), Professor and Department Head Emeritus of Psychology; Ph.D. 1969, Ohio State University.


Martin, Elsie G., (1977-1984), Associate Professor Emerita of Nursing; M.N.Ed. 1963, University of Pittsburgh/Pittsburgh.


Martin, Jeanette, (1979-2000), Professor Emerita of Curriculum and Instruction; Ph.D. 1987, Indiana University/Bloomington.

Martinez, Palenon A., (1957-1987), District Program Director Emeritus, Northern District, Cooperative Extension Service; M.S. 1958, New Mexico State University.


Mather, Thelma S., (1977-1992), Executive Vice President Emeritus of International Programs and Professor Emeritus of Agricultural and Extension Education; Ph.D. 1977, University of Wisconsin/Madison.


McCasy, Bobby D., Professor Emeritus of Agronomy and Horticulture; Ph.D. 1974, University of Minnesota/Minneapolis.

McCormick, Flavia, (1967-1987), Associate Dean Emerita of Arts and Sciences, Professor Emerita of Sociology and Anthropology; Ph.D. 1967, Oklahoma State University.


McKinley, Joseph W., (1966-1984), Professor Emeritus of Biology; M.S. 1957, University of Colorado/Boulder.

McPherson, Ronald B., (1981-1998), Associate Professor Emeritus of Civil, Agricultural, and Geographical Engineering; Ph.D. 1968, West Virginia University; Registered Professional Engineer.

Mealy, James L., (1965-1989), Associate Professor Emeritus of English; M.A. 1959, University of New Mexico.


Miscellaneous:

Merrill, Don M., (1964-1997), Professor Emeritus of Electrical and Computer Engineering; Ph.D. 1964, University of Utah.

Mignery, Marilyn J., (1986-2000), Extension 4H Agent Emerita; B.S. 1964, University of Nebraska/Lincoln.

Miller, August, (1964-1991), Professor Emeritus of Physics; Ph.D. 1961, New Mexico State University.

Miller, Darlis A., (1975-1999), Professor Emerita of History; Ph.D. 1977, University of New Mexico.

Miller, Donald D., (1951-1964), Emeritus Professor of Animal and Range Sciences; Ph.D. 1951, Oregon State University.


Monagle, John J., (1961-1988), Associate Dean Emeritus, College of Arts and Sciences; Professor Emeritus of Chemistry; Ph.D. 1954, Polytechnic Institute of New York.

Moncus, M. Lynn, (1964-1989), Associate Professor Emerita of English; Ed.S. 1964, New Mexico State University.


Moore, Judith, (1966-1995), Professor Emerita, Carlsbad Branch; M.A. 1964, Western New Mexico University.

Morehead, Thomas, (1986-2001), Professor Emeritus of Finance; Ph.D. 1976, Georgia State University.


Mueller, Wolfgang, (1985-2006), Professor Emeritus of Chemistry and Biochemistry; Ph.D. 1969, University of Bonn.


Myers, Christine L., (1962-1985), Assistant Professor Emerita of Library Science; M.S.L.S. 1949, University of Arizona.


Novotny, Kenneth (1976-2001), Professor Emeritus of Economics and International Business and Academic Department Head Emeritus; Ph.D. 1977, University of Texas/Austin.


O’Neal, Mary Jo, (1953-1986), County Director Emerita, Luna County, Cooperative Extension Service; B.S. 1953, New Mexico State University.

Oritz, Melchor, (1975-1993), Professor Emeritus of Experimental Statistics; Ph.D. 1975, Texas A&M University.


Owen, Gordon R., (1962-1989), Professor Emeritus of Communication Studies; Ph.D. 1963, Purdue University.


Owen, John C., (1977-2001), Executive Vice President Emeritus and Professor Emeritus of Entomology, Plant Pathology and Weed Science; Ph.D. 1971, Iowa State University.

Shouman, Ahmad R., (1960-1986), Professor Emeritus of Mechanical Engineering; Ph.D. 1985, Iowa State University of Science and Technology.


Simmons, Mary Louise, (1978-2001), Associate Professor Emerita of Nursing; M.P.H. 1968, University of North Carolina/Chapel Hill.

Simons, John W., (1978-2001), Associate Professor Emeritus of Computer Science; Ph.D. 1971, University of Minnesota/Minneapolis.


Strang, Patricia, (1990-2001), Associate Professor Emerita of English; M.A. 1977, Western New Mexico University.

Stromberg, Torsten R., (1967-2000), Associate Professor Emeritus of Agricultural Information; Professor Emeritus; M.S. 1968, South Dakota State University.

Swartz, Charles W., (1965-1997), Professor Emeritus of Mathematical Sciences; Ph.D. 1965, University of Arizona.

Taylor, Danny M., (1976-2002), Associate Professor Emeritus of Economics; M.S. 1975, New Mexico State University.


Thode, Edward F., (1963-1986), Professor Emeritus of Chemical Engineering and Management; Sc.D. 1947, Massachusetts Institute of Technology.


Thompson, Eula F., (1915-1984), County Agent Emerita, Hidalgo County, Cooperative Extension Service; M.S. 1951, Nebraska State Teachers College.


Thompson, Lua F., (1984-1998), Professor Emerita, Doña Ana Branch; M.A. 1982, New Mexico State University.


Thornberry, Leslie E., (1983-2005), Professor Emerita, Secretarial Administration; M.A. 1987, New Mexico State University.


Turner, Paul R., (1972-2002), Assistant Professor Emeritus of Fishery and Wildlife Sciences; Ph.D. 1977, Oklahoma State University.


Ulton, G. W., (1964-1988), County Director Emeritus, San Juan County, Cooperative Extension Service; B.S. 1952, New Mexico State University.

Valentine, Jack, (1982-2001), County Program Director Emeritus, Cooperative Extension Services; M.A. 1975, New Mexico State University.

Van Heuvelen, Alan, (1964-1993), Professor Emeritus of Physics; Ph.D. 1964, University of Colorado/Boulder.


Wagley, Leon A., (1936-1991), Professor and Department Head Emeritus of Agricultural and Extension Education; Ed.D., 1964, University of Arizona.

Walker, Carol L., (1984-1996), Associate Dean Emerita, College of Arts and Sciences, Director Emerita, College of Arts and Sciences, Professor Emerita of Mathematical Sciences; Ph.D. 1962, New Mexico State University.

Walker, Elbert, (1957-1987), Professor Emeritus of Mathematical Sciences; Ph.D. 1955, University of Kansas.


Wang, Joseph, Professor Emeritus of Chemistry and Biochemistry; D.Sc. 1970, Israel Institute of Technology.


Wells, Delbert E., (1973-1989), Professor Emeritus of Marketing and General Business; J.D. 1972, University of New Mexico.


White, Harvey R., (1980-2001), Professor and Department Head Emeritus of Physical Education, Recreation, and Dance; Ph.D. 1980, University of New Mexico.


Williams, David, (1949-1981), Associate Professor Emeritus of Agronomy and Horticulture, Supervisor Emeritus of Northeastern Branch Experiment Station; M.S. 1949, Oregon State University.

Williams, Francis D., (1965-2000), Professor Emeritus of Mathematical Sciences; Ph.D. 1965, University of Wisconsin/Madison.

Williams, James D., (1979-2006), Professor Emeritus, Sociology and Anthropology; Ph.D. 1978, University of Illinois.


Wilson, Keith, (1965-1987), Professor Emeritus of English; M.S. 1956, University of New Mexico.

Winters, John E., (1973-1985), Assistant Professor Emeritus, Carlsbad Branch; M.S. 1963, Oklahoma State University.


Woodfield, Rita J., (1985-1999), Professor Emerita of Secretarial Administration, Carlsbad Branch; M.A. 1982, West Texas State University.


Zickefoose, Paul W., (1954-1984), Professor Emeritus of Economics; Ph.D. 1954, University of Kansas.


Zund, Joseph D., (1970-2001), Professor Emeritus of Mathematical Sciences; Ph.D. 1964, University of Texas/Austin.
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NEW MEXICO STATE UNIVERSITY
ACADEMIC CALENDAR 2009–2010

Fall Semester 2009

Faculty link open ........................................... August 10 (SU)
Faculty report ............................................. August 17 (MO)
Full convocation ........................................... August 18 (TU)
Instruction begins ........................................ August 20 (TH)
Last registration ........................................... August 24 (MO)
Deadline for filing degree application ................. August 28 (FO)

(Students meeting requirements at end of fall)
Deadline for registration/course addition ................. September 1 (MO)
Labor Day holiday ......................................... September 7 (MO)
Last day to drop with "W" ................................ October 14 (MO)

(Except courses carrying designated days)
Last day to withdraw from the university .................. November 13 (FO)
Thanksgiving holiday for students ......................... November 23-27 (MO-F)
EXAM WEEK .................................................. December 7-11 (MO-F)
Last day of classes ......................................... December 11 (FO)
Commencement ............................................. December 12 (SA)
Residence halls close ....................................... December 12 (SA)
Final grades due ........................................... December 15 (MO)

Spring Semester 2010

Faculty report .............................................. January 7 (TH)
Curriculum study & improvement of instruction ........ January 7–8 (TH-F)
Faculty link open .......................................... January 10 (SU)
Spring convocation ......................................... January 12 (TU)
Program registration for new students ..................... January 12 (TU)
Instruction begins ........................................ January 14 (TH)
Martin Luther King holiday ................................ January 18 (MO)
Last registration ........................................... January 18 (MO)
Deadline for filing degree application ..................... January 22 (FO)

(Students meeting requirements at end of spring)
Deadline for registration/course addition ................. January 27 (MO)
Last day to drop with "W" ................................ March 9 (TU)

(Except courses carrying designated days)
Spring break .................................................. March 22–28 (MO-F)
Spring holiday .............................................. April 2 (FO)
Last day to withdraw from the university .................. April 10 (FO)
EXAM WEEK .................................................. May 3–7 (MO-F)
Last day of classes ......................................... May 7 (FO)
Commencement ............................................. May 8 (SA)
Residence halls close ....................................... May 8 (SA)
Final grades due ........................................... May 11 (TH)

Summer

May 28 – August 11, 2010

Registration for new students (Faculty report) ........ May 28 (MO)
Residence halls open ...................................... May 25 (MO)
Memorial Day holiday ...................................... May 31 (TH)
Instruction begins ........................................ May 27 (MO)
Deadline for registration/course addition ................. June 4 (FO)
Last day to drop with "W" ................................ July 1 (TH)
Independence Day holiday ................................ July 5 (MO)
Deadline for filing degree application ..................... July 9 (FO)
Last day to withdraw from the university ................ July 23 (FO)
Last day of classes ........................................ August 9 (MO)
Residence halls close ...................................... August 10 (MO)
Final grades due ........................................... August 11 (MO)

Holidays for Administrative Offices, 2009–2010

Labor Day ..................................................... September 7 (MO)
Thanksgiving ............................................... November 28-27 (MO-F)
Winter holiday .............................................. Dec. 24, 2009-Jan 1
Martin Luther King holiday ............................... January 18 (MO)
Spring holiday ............................................. April 2 (FO)
Memorial Day ............................................... April 20 (MO)
Independence Day holiday ............................... July 5 (MO)

NMSU community college students and students taking weekend courses should refer to their separate calendars as appropriate.
NMSU Las Cruces campuses official beginning and end dates are as follows.