This catalog describes the curriculum, programs, and academic regulations of Northern New Mexico College. The provisions of this catalog are not to be regarded as an irrevocable contract between the student and the College. While every effort is made to ensure the accuracy of the information available at the time this catalog is prepared, Northern reserves the right to make changes, at any time, without prior notice.

Northern is a state institution. All facilities, equipment, and materials are for official use only and may not be used for private business or benefit.

CAMPUS LOCATIONS

El Rito Campus
P.O. Box 160
El Rito, NM 87530
(505) 581-4100
FAX (505) 581-4130

Española Campus
921 Paseo de Oñate
Española, NM 87532
(505) 747-2100
FAX (505) 747-2180

Hearing impaired applicants should contact the Telecommunications Relay Service, available 7 days a week, 24 hours a day at 1.800.659.8331.

Northern is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools. Their phone number is 312.263.0456, and their web address is www.ncahigherlearningcommission.org.

Northern does not discriminate on the basis of age, race, color, sex, sexual orientation, religion, handicap, national origin, ancestry, or medical condition in its educational programs, activities, employment, or admission policies.

Title IX Coordinator: Director of Human Resources, Northern New Mexico College, 921 Paseo de Oñate, Española, NM 87532. (505) 747-2160.

Section 504 ADA Coordinator: Accessibility Resources Coordinator, Northern New Mexico College, 921 Paseo de Oñate, Española, NM 87532. (505) 747-2152.

Questions concerning any portion of this publication should be addressed to the Registrar’s office at (505) 747-2138.

Copies of this catalog are available online at www.nnmc.edu. You may also purchase a copy through Northern’s Bookstore at a cost of $3.00 each.
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General Information

HISTORY OF NORTHERN NEW MEXICO COLLEGE

Northern New Mexico College and its mission have always played an integral role in the State of New Mexico’s goal to provide educational opportunities for its residents.

In the early 1900s the New Mexico Territorial Legislature determined that a facility was needed as a “normal school” with a primary function of training teachers for the State’s Spanish-speaking population. The Spanish American Normal School at El Rito opened its doors in September 1909, and celebrated its centennial as Northern New Mexico College.

When the New Mexico Territory applied for statehood in 1912, the State Constitution (Article 12, Section 11) identified the Spanish American Normal School as one of ten educational institutions which would be supported by the state. The Spanish American School provided both secondary and post-secondary educational programs.

In 1953, the State Legislature changed the name of the institution to Northern New Mexico State School and, mandating that the institution provide training not available in public schools, implemented a secondary school curriculum. Six years later, the Board of Regents renamed the school Northern New Mexico College. NNMC continued to teach grades 7-12 along with the new college curriculum.

By 1961, the College was offering two-year programs in business education, general studies, and selected vocational programs. Technical-vocational programs proved popular, and enrollment increased due to a school-operated transportation system which allowed the population from the surrounding rural villages to attend the school.

In 1969 the high school curriculum was transferred to a newly-created public school district and the curriculum at the College was limited to technical-vocational course offerings. One year later, the Board of Regents again renamed the school the New Mexico Technical-Vocational School to indicate the changes in course offerings.

Operating under its new name, the Technical-Vocational School expanded its curriculum and faculty, and developed a campus in Española, approximately 30 miles from El Rito. The school assumed the Practical Nurse program from St. Vincent’s Hospital in Santa Fe. As educational needs in northern New Mexico evolved, educators and legislators identified a need for a more comprehensive delivery of educational services. In 1976 a task force was created whose membership included representatives from the New Mexico Technical-Vocational School, the University of New Mexico, and local school boards and citizens to assess the feasibility of establishing a community college. The task force recommended that the University of New Mexico-Northern Branch (at Santa Cruz) be dissolved and their academic course offerings be combined with those of the New Mexico Technical-Vocational School. The Legislature accepted this recommendation and provided for the expansion of the institution’s mission.

The Board of Regents soon accepted the new mission of the institution, renamed the institution Northern New Mexico Community College, and began combining existing programs, philosophies, and procedures in order to establish a comprehensive community college.

The new institution was headed by a president appointed by the Board of Regents. The programs to be offered by the new institution included associate degrees in various
academic and occupational disciplines, certificate-granting programs in occupational studies, special interest courses granting continuing education units (CEUs), and other courses offered for no credit.

In 2004, legislative approval and accreditation was extended to Northern, permitting it to be the first community college in the state of New Mexico to offer a four-year degree, a BA in Elementary Education. In 2005, legislation was enacted which permitted the college to offer four-year degrees in any programs deemed necessary and appropriate. Northern New Mexico Community College was renamed Northern New Mexico College.

MISSION STATEMENT

The mission of Northern New Mexico College is to ensure student success by providing access to affordable community-based learning opportunities that meet the educational, cultural, and economic needs of the region.

VISION STATEMENT

Northern New Mexico College is a Hispanic- and Native American-serving comprehensive institution that will be recognized nationally for cultural sustainability, quality student learning, and developing economically strong communities among diverse populations.

ACCREDITATION

Simultaneously with the expansion of mission and services, Northern undertook candidacy for accreditation with the Higher Learning Commission of the North Central Association of Colleges and Schools (NCA). The Technical-Vocational School had already been granted candidacy for accreditation (1977-1982). Accreditation by the North Central Association for Northern as a community college was officially declared on March 20, 1982; reaffirmation of accreditation was granted for seven years in 1987; and reaffirmation of accreditation was granted for ten years (1994-2004).

In August 2004, our regional accrediting association (NCA) accredited Northern’s Bachelor of Arts in Elementary Education, as well as pre-accrediting whatever other undergraduate teaching degrees Northern would develop.

In 2005, Northern sought and obtained accreditation for baccalaureate degrees in Biology, Business Administration (BBA), Environmental Science, Information Technology, and Integrative Health Studies.

In 2008, Northern again sought and obtained accreditation for baccalaureate degrees in Engineering (Information Engineering Technology, Mechanical Engineering (Solar Energy Technology), Software Engineering Technology, Mathematics, and an RN to BSN completion program. In February 2009, Northern’s reaffirmation of accreditation was granted for seven years (2009-2016).

On June 25, 2009, accreditation was granted for a Bachelor of Music in Jazz Studies, and, in March 2010, accreditation was granted for a Bachelor of Arts in Integrated Studies with majors in Humanities, Psychology, and Pueblo Indian Studies.

In addition to regional accreditation, Northern’s educational offerings are accredited or approved by other agencies. The College’s occupational courses are approved by the New Mexico State Department of Public Education; the Barbing, Cosmetol-
ogy, and Nursing programs are approved by their respective state licensing boards; the associate-level Business programs are accredited by the Association of Collegiate Business Schools and Programs; and all of the Education programs are state NCATE accredited.

State approval for benefits under Title 38 USC for veterans and other eligible persons has been granted by the New Mexico Veterans Service Commission.

Those wishing to review or verify the above statements concerning accreditation should contact the Director of Assessment and Institutional Accreditation at 505.747.2158.

PHYSICAL SETTING

Northern has campuses in Española and El Rito. In addition, Northern also regularly offers classes upon request at other communities within its service area.

The Española campus is an attractive thirty-acre tract which runs from state highway 85 to the banks of the Rio Grande. From anywhere on campus one may appreciate the panorama of the Sangre de Cristo and Jemez Mountain ranges.

The surrounding area offers a wide range of outdoor recreational activities such as boating, swimming, fishing, hunting, camping, and skiing. Española is the center of commerce for the area which has a growing population of approximately 35,000. The Española campus is located 25 miles north of Santa Fe and 40 miles south of Taos. The Española campus consists of eleven buildings dedicated to classrooms and labs, plus a gymnasium.

The El Rito campus is 32 miles north of Española on a sixty-acre tract on the southernmost slope of the San Juan Mountains at an elevation of 6,600 feet. Adjacent to the campus is the scenic and peaceful village of El Rito which is located at the entrance of the vast Carson National Forest. This forest is known for its excellent fishing, hunting, and camping sites. Fifteen miles to the east is the village of Ojo Caliente, which is famous for its hot mineral springs and related resort facilities. Eighteen miles to the northwest is Abiquiu Lake, which is a prime water recreation area.

Undergraduate Admissions

ADMISSIONS

Northern has an open admissions policy for any person who can benefit from the instructional programs offered by the College. No applicant will be denied admission on the basis of race, color, creed, age, sex, sexual orientation, religion, national origin, physical handicap, or marital status. However, because Northern is a post-secondary institution, we do have restrictions on admission for those who have not yet graduated from high school.

Detailed information concerning deadlines for submitting applications for admission appear in each semester’s Schedule of Classes and at www.nnmc.edu.

USE OF SOCIAL SECURITY NUMBERS

Northern does not use individual Social Security Numbers as a means of identification; the College issues student ID numbers generated by its administrative software as
its primary identification system. The College requires that Social Security Numbers be supplied in order to comply with various state and federal reporting requirements (e.g. financial aid). In no instance will an individual’s Social Security Number be disclosed to other parties for any purpose without the written consent of the student.

GENERAL POLICIES

If you wish to obtain a degree or certificate from Northern, you may apply for regular admission status * and must show that you:

1. have received a diploma from a public or private high school/home school (home school graduates must be at least 16).

   Note: a Certificate of Completion or Attendance from a high school is not a diploma. If you present a Certificate of Completion/Attendance, you will be classified in Non-Degree status until such time as you earn a GED.

2. have received a General Education Development (GED) diploma; or

3. are a transfer student in good standing from another accredited college, university, or other post-secondary institution. If you are on academic probation or suspension at another institution Northern New Mexico College will also place you on probation until you have met satisfactory academic standards.

* Admission in regular status amounts to “matriculation,” which is a formal acceptance by the college of your qualifications to pursue a degree or certificate. You may be matriculated at only one college at a time. Therefore, if you are already matriculated at, for example, New Mexico Highlands University, regular status at Northern would not be appropriate; you would then seek admission to Northern in Non-Degree status.

Until all required transcripts are received at the Office of Admissions, your application will remain in “incomplete” status.

DECLARING A MAJOR AND ChangIng A MAJOR

If you are declaring a major for a certificate or associate degree, you will achieve matriculation (final admission status) when we have received official transcripts from every institution you have previously attended. If you have never attended college before, a copy of your high school or GED diploma will suffice. If you will be seeking financial assistance, you will have to supply an official transcript showing HS graduation or GED completion. The fact that one or more colleges consolidate courses from other colleges onto their transcripts does not mean that you can choose which transcripts to have sent to Northern—official transcripts from all post-secondary institutions/schools are required must be submitted to NNMC’s Office of Admissions.

Some programs have their own special admission standards (e.g., Nursing, Education); when you apply to the college for those majors, you will be considered a “tracking” student until such time as the department/college informs the Office of Admissions that you have applied to and been accepted to that specific program.

If, once you have started classes, you decide to change your major it will be your responsibility to inform the Office of the Registrar in writing by submitting a properly completed Change of Major form. Again, if the new department or college has its own application process, you will revert to a “tracking” status until your application has been accepted by that entity.

This is a very important process when it comes to graduating. At Northern, you are entitled to graduate under the terms of the catalog under which you began your
major or under any subsequent catalog under which you may be eligible, given that you haven’t “stopped out.” Your eligibility does not begin when you decide you have chosen the major; it begins only after the proper form has been approved and input to the database.

If you have “stopped out” (not attended for more than one academic year), you will have to submit an application for readmission when you return to Northern. At that time, no matter what major you declare, your eligibility status starts with the current catalog. You would no longer be eligible to follow any catalog for which you had previously been eligible.

**FIRST–TIME–ANY–COLLEGE (FTAC) STUDENTS**

If you have demonstrated eligibility through HS or GED graduation, your application will be processed as incomplete until you present a copy of your official transcript (for high school graduates) or an official GED transcript, (for GED recipients), plus adequate ACT or SAT scores or Course Placement Evaluations (Northern uses COMPASS).

If you test into ENG 106N or into PD 108N, you will be admitted as a regular, degree-seeking student and will be eligible to receive whatever financial aid you may be eligible for, but such aid will not pay for either of these two courses. However, if you are already enrolled in other courses that total 12 or more credits, you can add either or both of these courses and their tuition will be covered because Northern does not charge extra tuition for credits between 12-18. Further, admission in regular status will revert to non-degree status if you have not successfully completed ENG 108N and MATH 100N by the end of your first year of study.

If, however, you test below ENG 106N or below PD 108N, you will be admitted as a non-degree student. This will make you ineligible to receive financial aid. You may, though, enroll in certain courses which have no prerequisites. You may also choose to retest. If you wish to retest, visit the Student Success Center to obtain brush-up materials before retesting.

**TRANSFER STUDENTS**

If you are in *good standing* at the last college attended, you are eligible to attend Northern in either regular or non-degree status, depending on your interests and needs. *Good standing* means that you are not on an academic or disciplinary suspension.

We require that you list on your application for admission all colleges attended, with dates, and degrees earned and, if you choose to attend in regular status, we require that you have each college or other post-secondary school you have attended send us an official transcript.

If, before you register, analysis of your transcript(s) does not show either that you have completed or that you qualify for college-level English or math, your application will be considered as incomplete, pending receipt of adequate Course Placement scores.

If you are not in *good standing*, you are not automatically eligible to apply for admission to Northern. You may complete the application form and attach to it a letter of appeal addressed to the Director of Admissions. In your letter, you must state what caused the lack of good standing and how you plan to maintain good standing.
while at Northern. To facilitate your appeal, attach a copy of the transcript on which the Suspension is recorded. Your appeal will be processed and you will be notified of acceptance or denial. If your appeal is granted you will be placed on Academic Probation until you meet satisfactory academic standards.

Until all transcripts have been received at the Office of Admissions, you will not be able to qualify for financial aid or be able to graduate: your admission status will remain Incomplete.

INTERNATIONAL STUDENTS

Northern is approved by the United States Customs and Immigration Service (USCIS), a division of the Department of Homeland Security, to issue I-20s for those applicants who meet our requirements. Most, but not all, degree programs are available for those seeking a student (F-1) visa.

If you are a non-immigrant alien who wishes to apply to Northern, please contact the Director of Admissions (forona@nnmc.edu) for the necessary forms, or download the special application form from our web site at www.nnmc.edu.

Proof of English language competency is required before being accepted to the College; only those who have graduated from a U.S high school or college will be exempt from this requirement. Refer to the special application packet for details/choices of test instruments. This packet is available online at www.nnmc.edu.

The Designated Service Officer at Northern is the Director of Admissions (forona@nnmc.edu or 505.747.2161).

READMISSION

If you have previously been a student at Northern other than as a high school student, and if it has been at least one academic year since your last attendance, you will have to re-apply for admission. If your status has not changed since your last attendance, no paperwork other than a new application will be necessary; however, if you are re-applying for regular status and have been to another college in the meantime, you must have an official transcript sent from each such college. When all required documentation has been received, the Office of Admissions will determine if you will need to provide Course Placement Evaluation scores before granting regular status. Until everything is in order, your admission status will be classified as Incomplete.

If you re-apply in Non-degree status, you only need to complete the Non-degree Application Form.

NON–DEGREE

This status is for those over the age of 18 who do not meet or do not wish to meet the criteria for matriculation (regular status). If you are accepted in this status, you may later apply for regular status when you can demonstrate that you have met the requirements. Please note that no type of financial assistance is extended to students in non-degree status.
CONCURRENT ENROLLMENT

Concurrent enrollment is a term used to define a relationship existing between public or private school districts and/or other high school students who do not place into college level courses but would otherwise like to enroll in a class, and public colleges and universities in New Mexico. If you are in grades 10-12, carry a 2.00 minimum cumulative high school GPA, and have tested into at least ENG 108N, MATH 100N, and RDG 108N, you may apply for admission.

If you are still in high school, you must use the Application for Admission for Students Still in High School.

In case you should disagree with either your high school or Northern concerning your selection and/or admittance, each entity has set up a formal appellate process. To appeal at the college level, contact the Director of Admissions; at the high school level, contact your counselor.

DUAL CREDIT

Student eligibility and enrollment in dual credit courses is based on your high school counselor’s approval and/or test scores (COMPASS, ACT/SAT), or other test instruments approved by Northern, or by completion of course prerequisites.

If you are enrolled in a public school district (or one of its charter schools), or a BIA school and if you qualify for college-level courses after being admitted to the college, you will be eligible for Dual Credit enrollment, which means that the college will cover your tuition and general fees, your public school district or BIA school will buy and loan you the required textbooks, and you and your parents will be responsible for transportation and any non-general fees (e.g., lab, course, or media fees). In order for you to participate in the Dual Credit program your high school counselor must sign off on a special form (Dual Credit Request Form), which you will bring to Northern’s Office of Admissions in order to enroll. Completion of that form guarantees credit both toward high school graduation and toward a college degree at Northern.

If you wish to enroll in any course which is not approved by your school district (including remedial courses), you and your parents will be responsible for all costs associated with such enrollment.

If you are enrolled in a private high school (including home school), after admission to the college you may enroll in those courses for which you meet the prerequisites. If you fall into this category, you and your parents will be responsible for all costs associated with such enrollment.

EARLY ADMISSION OF PUBLIC HIGH SCHOOL STUDENTS FOR FULL–TIME ATTENDANCE

If you are a high school senior with a 3.00 cumulative grade point average (based on grades 9 through 11) and wish to apply for admission as a full-time student in your senior year, you must have parental permission (if under 18) and a release from your school district (if public) or high school (if private).

In other words, there must be general agreement among the school, your parents/guardians, and yourself that trading high school for full-time college attendance is the most appropriate educational goal for you. This status will not preclude your high school from counting the college credits you earn against the requirements for earning a high school diploma. That will be a decision made by your district.
To accomplish this, you will need to have your high school send Northern an official transcript showing your coursework from grades 9 through 11. If you are admitted under this special status but your high school will not use Northern credits toward graduation, we encourage you to work toward earning a GED diploma as soon as possible while you are enrolled in college credit courses. Although you do not have to do so, it is to your benefit in the long run to complete the GED while attending college classes.

ADMISSION FOR THOSE WHO DO NOT OTHERWISE QUALIFY

If you do not otherwise qualify for admission to Northern, you may provide a written appeal of Northern’s admission policies to the Director of Admissions, providing such evidence as may be required by that official. If the Director of Admissions does not grant your appeal, you would then have the right to appeal to Northern’s Scholastic Standards Committee, a Faculty Committee. If the committee hears your appeal, you must be present at the hearing. A favorable recommendation from that committee could permit admission in an appropriate status, with enrollment in appropriate courses, as determined by Course Placement Evaluation scores.

SPECIAL PROGRAM REQUIREMENTS

Admission to the college does not carry with it admission to all certificate or associate degree programs of study. You should check with the department chairpersons or program directors of specific programs for admission criteria to their programs.

BACCALAUREATE PROGRAM ADMISSION STANDARDS

In addition to the minimum standards established for admission to its certificate-granting and associate degree-granting programs, Northern has set additional standards for those desiring to enter its four-year baccalaureate degree programs.

See the standards for matriculation to each program as shown in the degree section of this catalog. In general, you must have completed at least the 38-39 credits of the College’s General Education Common Core, and have at least a 2.50 cumulative grade point average (excluding any remedial courses) before being eligible to apply for acceptance to these programs.

TRANSFER AMONG NEW MEXICO HIGHER EDUCATION INSTITUTIONS

To facilitate transfer of students and course credits among New Mexico’s colleges and universities, the state’s public institutions of higher education are required to accept in transfer the courses taken within approved modules of lower-division course work and apply them toward degree requirements. Several transfer guides have been developed through collaboration of New Mexico’s public post-secondary institutions, consistent with requirements of state law (21-1B, NMSA 1978). Students enrolling for first-year or second-year study at a New Mexico institution who wish to prepare for possible transfer into a degree program at another institution are advised to take these courses during their freshman and sophomore years. [Refer to the New Mexico Higher Education Department website at www.hed.state.nm.us for complete lists of courses.]
STUDENT RESPONSIBILITY

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

TRANSFERABLE LOWER–DIVISION GENERAL EDUCATION COMMON CORE

Students enrolling for first-year study who have not yet selected either an academic focus or the institution where they wish to graduate are advised during their freshman year to take courses outlined in the Lower Division General Education Common Core. For students enrolled at any public institution in New Mexico, the following courses are guaranteed to transfer to any other New Mexico public college or university, and apply toward associate and baccalaureate degree program requirements. Students should consult advisors at their current institutions regarding which specific courses fit these categories. Students preparing for careers in engineering, health sciences, or other profession-related fields are advised that some of this coursework may not transfer toward general education requirements but in most cases will apply toward elective requirements.

AREA I: COMMUNICATIONS / SELECT 9 SEM CR

(a) College-level English Composition 3 cr
(b) College-level Writing (a second course building on the above) 3 cr
(c) Oral Communication 3 cr

AREA II: MATHEMATICS / SELECT 3 SEM CR

(a) College Algebra 3 cr
(b) Other math course at/above level of College Algebra

AREA III: LABORATORY SCIENCE / SELECT 8 SEM CR

(a) General Biology, with laboratory 4-8 cr
(b) General Chemistry, with laboratory 4-8 cr
(c) General Physics, with laboratory 4-8 cr
(d) Geology/Earth Science, with lab. 4-8 cr
(e) Astronomy, with laboratory 4-8 cr

AREA IV: SOCIAL & BEHAVIORAL SCIENCES / SELECT 6–9 SEM CR

(a) Economics (Macro- or Microeconomics) 3 cr
(b) Introduction to Political Science 3 cr
(c) Introduction to Psychology 3 cr
(d) Introduction to Sociology 3 cr
(e) Introduction to Anthropology 3 cr

AREA V: HUMANITIES AND FINE ARTS / SELECT 6–9 SEM CR
(a) Introduction to History Survey 3 cr
(b) Introduction to Philosophy 3 cr
(c) Introduction to courses in history, theory, or aesthetics of the arts or literature *3 cr

Total to be selected = 35 semester hours

TRANSFERABLE LOWER–DIVISION 64–HOUR TRANSFER MODULES

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

- Business
- Social/Behavioral Sciences
- Biological Sciences
- Physical Sciences
- Engineering
- Early Childhood Education
- Teacher Education
- Criminal Justice

Modules for additional areas of study are being developed. Copies of Transfer Modules listed above may be obtained at Northern’s Student Advisement Center or from the web site for the institution to which you intend to transfer.

Students who have selected a field of study and/or the institution from which they wish to graduate are advised to consult the transfer guide or catalog for that institution for more current and detailed advice to guide their course selection. Copies of formal transfer guides are available.

TRANSFER OF CREDIT AND AWARDING OF CREDIT THROUGH EXAMINATION

Northern recognizes that there are many ways in which college credit may be amassed and, in an effort to maximize the opportunities available to its public, has adopted the following policies:

A. Academic credit may be granted upon:

1. the completion of any of Northern’s credit-bearing classes with a grade of “C” or better. Academic credit in this context refers to credit accepted against courses required for graduation in your declared major.

2. receipt at Northern of an official transcript from another regionally or nationally accredited college or university showing successful completion of an equivalent credit-bearing course. Grades from other institutions are not accepted; grades of TR are posted. At the time your admission status has been finalized with the receipt of all
required college transcripts, your transcripts will be sent from the Office of Admissions to the Office of the Registrar to be evaluated and appropriate credit posted to your official Northern record.

*Note:* Northern does not accept every course in transfer. We consider only those courses required for graduation in your declared major or to establish prerequisites.

3. receipt at Northern of official AP/CIE/CLEP/DSST scores which meet minimum cut-off scores as listed on the following page.

**Advanced Placement (AP): minimum score = 3, English = 4**

**AP exam title and credit allowable:**
- Art History = ART 107 (3) & ART 211 (3)
- Biology = BIOL 201/L (4) & BIOL 202/L (4) *
- Calculus AB or BC = MATH 162 (4)
- Chemistry = CHEM 121/L (4) & CHEM 122/L (4)*
- Computer Science A = CS 132 (3); Computer Science B = CS 142 (3);
- Computer Science C++ = CS 200 (3)
- Economics = ECON 200 (3)
- English = ENG 111 (3) & ENG 112 (3)
- Government & Politics = PSCI 200 (3)
- Physics B = PHYS 121/L (4) & PHYS 122/L (4) *
- Physics C = PHYS 215/L (4) & PHYS 216/L (4) *
  *must include lab experiences
- Psychology = PSY 105 (3)
- Spanish = SPAN 201 (3) & SPAN 202 (3)
- Statistics = MATH 145 (3)
- Studio Art = ART 110 (3) *
  *Additional 3 credits available upon portfolio evaluation
- US History = HIST 161 (3) & HIST 162 (3)

**University of Cambridge International Examinations (CIE):** Northern will grant credit for grades of A-C on A & AS level examinations, as appropriate to degree requirements.

**College Level Examination Program (CLEP):** Subject examinations are administered by the Student Success Center. At the time of publication of this catalog, the fee is $72.00 per test (payable to CLEP), plus a $15.00 administrative fee (payable to Northern). Call 505.747.2199 for details. These examinations are computer-based.

**CLEP Subject Exams:**
- Principles of Management (46) BA 240 (3)
- Introduction to Marketing (50) BA 251 (3)
- Introduction to Business Law (50) BA 300 (3)
- Principles of Macroeconomics (44) ECON 200 (3)
- Principles of Microeconomics (41) ECON 201 (3)
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<th>Course Details</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman College Comp. (44)</td>
<td>ENG 111 (3)</td>
</tr>
<tr>
<td>Essay is required</td>
<td>ENG 112 (3)</td>
</tr>
<tr>
<td>Analysis &amp; Interp. of Lit. (50)</td>
<td>HIST 161 (3)</td>
</tr>
<tr>
<td>American History I (50)</td>
<td>HIST 162 (3)</td>
</tr>
<tr>
<td>American History II (50)</td>
<td>MATH 130 (3)</td>
</tr>
<tr>
<td>College Algebra (50)*</td>
<td>MATH 150 (3)</td>
</tr>
<tr>
<td>College Algebra (50)*</td>
<td>MATH 155 (3)</td>
</tr>
<tr>
<td>*A score of 50 or better will earn credit for 130 &amp; 150</td>
<td>MATH 162 (3)</td>
</tr>
<tr>
<td>College Algebra/Trigonometry (61)</td>
<td>PSY 105 (3)</td>
</tr>
<tr>
<td>(A score of 61 will earn credit for 150 &amp; 155)</td>
<td>PSY 290 (3)</td>
</tr>
<tr>
<td>Calculus w/ Elem. Functions (47)</td>
<td>SOC 101 (3)</td>
</tr>
<tr>
<td>American Government (50)</td>
<td>SPAN 101/102 (6)</td>
</tr>
<tr>
<td>General Psychology (50)</td>
<td>SPAN 201/202 (6)</td>
</tr>
<tr>
<td>Human Growth &amp; Development (50)</td>
<td>(A score of 50-62 will earn 6 crs.)</td>
</tr>
<tr>
<td>Introduction to Sociology (50)</td>
<td>(A score of 63 or better will earn 12 crs.)</td>
</tr>
</tbody>
</table>

**DSST (DANTES) SUBJECT EXAMS:**

The following DSST exams are made available for testing at the Student Success Center. The cost per test is $80 (payable to The Chauncey Group), plus a $15.00 administrative fee (payable to Northern). Call 505.747.2199 for details.

<table>
<thead>
<tr>
<th>Course Details</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Mathematics (48)</td>
<td>BA 205 (3)</td>
</tr>
<tr>
<td>Criminal Justice (49)</td>
<td>CJ 111 or CJ 132 (3)</td>
</tr>
<tr>
<td>Here’s to Your Health (48)</td>
<td>HPER El. (3)</td>
</tr>
<tr>
<td>Resource Management (46)</td>
<td>BA360 (3)</td>
</tr>
<tr>
<td>Introduction to Business (46)</td>
<td>BA 220 (3)</td>
</tr>
<tr>
<td>Int. to Law Enforcement (45)</td>
<td>CJ 211 or CJ 221 (3)</td>
</tr>
<tr>
<td>Lifespan Develop. Psychology (46)</td>
<td>PSY 290 (3)</td>
</tr>
<tr>
<td>Mgmt. Information Systems (46)</td>
<td>BA 242 (3)</td>
</tr>
<tr>
<td>Organizational Behavior (48)</td>
<td>BA 313 (3)</td>
</tr>
<tr>
<td>Principles of Finance (46)</td>
<td>BA 310 (3)</td>
</tr>
<tr>
<td>Principles of Statistics (48)</td>
<td>MATH 145 (3)</td>
</tr>
<tr>
<td>Principles of Supervision (46)</td>
<td>BA 240 (3)</td>
</tr>
</tbody>
</table>

4. receipt of a veteran’s DD-214 and/or DD-295 which provides sufficient information to allow an evaluation of prior training and experience during military service against Northern’s degree requirements. American Council on Education (ACE) guidebooks are used for the evaluation of such credit. Credit is subject to departmental approval against major requirements.

5. official transcripts and/or certificates of completion from entities recognized in *The National Guide to Educational Credit for Training Programs (ACE)* or in *College
Credit Recommendations: The Directory of The National Program on Non-collegiate Sponsored Institutions (New York Board of Regents).

6. documented completion of one/more of the following:
   NM Law Enforcement Academy (31 crs)*
   BIA Law Enforcement Academy (27 crs)*
   * Includes 2 crs HPER Electives + CJ courses.

You may find more information in the academic section of this catalog, under the AAS-Police Science degree.

7. successful completion of one of Northern’s approved Locally-Developed Subject Examinations [see the Registrar for further details]. Note: This type of examination does not extend to college-level courses which fall into the category of being part of the General Education Common Core.

8. receipt of an acceptable transcript showing courses taught at non-U.S. colleges or universities for which an adequate determination can be made by the Registrar as to the equivalency of the course content and satisfactory progress based on Northern’s standards.

9. receipt of a current card showing certification for CPR (issued by the American Heart Association) or CPR/First Aid (issued by the American Red Cross). Credit will be given for our equivalent course.

10. receipt of a current CRT card. Credit will apply in substitution for PHYS 121/L in the AAS in Radiation Protection only.

11. Credit for non-required courses or for Community Service/Continuing Education (CEU) courses is not granted.

B. In general, Northern imposes no maximum limitation on the number of credits which may be accepted in transfer or by means of nationally standardized testing. Specific programs, however, may establish time cut-offs for the acceptance of credit which had been earned in the past. This is to ensure that the course competencies that you possess are not out of date. Baccalaureate programs may impose limitations on how many credits can be accepted in transfer against upper-division requirements. Any such restrictions are clearly defined in Northern’s catalog and/or in the individual programs’ handbooks.

C. Any student may at any time submit official scores based on such nationally standardized tests as CLEP/DSST without respect to the student’s status of matriculation or the number of terms completed at Northern. Credit will be posted only if the student is in degree-seeking status.

COMPLAINT PROCEDURE FOR TRANSFER STUDENTS

All New Mexico public post-secondary institutions are required to establish policies and practices for receiving and resolving complaints from students or from other complainants regarding the transfer of coursework from other public institutions in the state. A copy of Northern New Mexico College’s complaint policy may be accessed on line at Northern’s website (www.nnmc.edu). If you have not received satisfaction from internal college processes, you may contact the New Mexico Higher Education Department, 2048 Galisteo Street, Santa Fe, NM 87505-2100, 505.476.8400 (http://hed.state.nm.us).
CLASSIFICATION OF STUDENTS

As a student, you are classified as a freshman, sophomore, junior, or senior based on the number of credit hours you have earned toward your declared degree, whether in residence at Northern, through standardized testing, or in transfer from other colleges. For all practical purposes, these credits include any remediation you may have taken. The breakdown on these classifications are:

- **Freshman**: 1.00 to 32.9 cr
- **Sophomore**: 33.0 to 67.9 cr
- **Junior**: 68.0 to 100.9 cr
- **Senior**: 101.0 to 999.9 cr

These classifications are used for reporting to state and federal agencies, as well as for financial aid purposes.

STUDENT EMAIL ACCESS REQUIRED FOR ALL NNMC STUDENTS

All students who have completed the application process and have been assigned a Student ID number will, at the same time, receive a student email account which is accessible clicking on myNNMC on Northern’s home page, www.nnmc.edu. You must do a one-time activation of your Eagles email, and then you can participate in the payment plan and receive all broadcast messages concerning course cancellations, closings or delays because of bad weather, etc. Your nnmc.edu email account is the college’s official means of communication. All college related information will be sent to you via this email account. It is your responsibility to check your nnmc.edu email account regularly for information being sent out from various departments at the college. If you have forgotten your nnmc email password, please contact IT Services at 505-747-2259.

ADMISSION / RE–ADMISSION OR RESIDENCY CLASSIFICATION APPEAL

If you have applied to the College for admission, re-admission, or for classification of residency and believe that the Office of Admissions & Recruitment and/or the Registrar has not adequately fulfilled its responsibilities in any of these areas, you may appeal by:

1. Providing the Director of Admissions & Recruitment with a letter of appeal, stating in detail what you believe to be inappropriate or incorrect about the decision. If the Director upholds your appeal, you will be admitted or re-admitted, as appropriate.

2. If, after your residency classification has been assigned, you feel that the admissions office has made a wrongful determination, contact the Classification Officer (the Registrar) to appeal. If you are still not satisfied, you may direct a written letter of appeal to the Chairperson of the Student Appeals Committee. According to state law and the New Mexico Higher Education Department, Northern’s appellate process is your last recourse prior to the courts (citation: HED Rule 910.10, effective 6/19/92).

Enrollment

STUDENT ADVISEMENT CENTER

Whether you are attempting to comprehend the exhaustive course listings and descriptions or you simply want guidance in understanding how classes relate to your
major, Northern’s Student Advisement Center can help you put the pieces together. Choosing a major and picking the appropriate courses for the core curriculum are just some areas in which the Student Advisement Center can help provide you direction.

The Student Advisement Center (SAC) serves all freshmen students, provides new student orientation information (required), assistance for all non-degree declared students, and individuals just needing assistance. The SAC is comprised of the Accessibility Resource Center (ARC), Veteran's Resource Center Advisor, Native American Student Advisor(s) and General Student Advising.

THE ADVISING PARTNERSHIP

Productive advising is built on a true partnership in which the student and the advisor work together. The spirit of an ideal advising partnership is one of mutual engagement, responsiveness, and dedication. Regular advising conversations, the fundamental building blocks of the partnership, enable an advisor to serve as a resource of knowledge and a source of referrals – so that students may plan and prepare, in the broadest sense, over the course of their years at Northern.

COURSE PLACEMENT

Our Course Placement Evaluation (CPE) process uses COMPASS as its testing instrument; it also includes an appraisal of ACT and/or SAT test scores to determine the proper level of English, math, or science courses in which you may enroll.

The CPE is offered on Monday-Friday, 8 a.m.–3 p.m. with the exceptions of college closures and Holidays. You will need to present a valid picture ID (NNMC student ID or driver’s license.)

CPE is mandatory if you are a First-Time-Any-College student. It is also mandatory if you are a re-admitted student or are a transfer student seeking regular admission status and cannot demonstrate that you have met the minimum prerequisites for admission of ENG 108N and MATH 100N.

1. You can avoid the CPE process only if you are a transfer student who has received grades of “C” or better in the equivalent of Northern’s MATH 130 or ENG 111 or higher; or
2. you apply in non-degree status; or
3. you can provide appropriate-level ACT, SAT, or COMPASS evaluation scores which are no more than 2 years old.

Northern uses the following COMPASS, ACT and SAT scores for course placement.

<table>
<thead>
<tr>
<th>COMPASS Range</th>
<th>ACT Range</th>
<th>SAT Range</th>
<th>Place into</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-29</td>
<td>0-12</td>
<td>0-330</td>
<td>PD 121*</td>
</tr>
<tr>
<td>30-36</td>
<td>13</td>
<td>340-350</td>
<td>ENG 108N</td>
</tr>
<tr>
<td>37-69</td>
<td>14-17</td>
<td>360-420</td>
<td>ENG 109N</td>
</tr>
<tr>
<td>70-100</td>
<td>18+</td>
<td>430+</td>
<td>ENG 111</td>
</tr>
<tr>
<td>Math COMA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-35</td>
<td>0-12</td>
<td>0-320</td>
<td>MATH 100NL*</td>
</tr>
<tr>
<td>36-46</td>
<td>13-14</td>
<td>340-360</td>
<td>MATH 100</td>
</tr>
<tr>
<td>47-100</td>
<td>14+</td>
<td>370+</td>
<td>MATH 130L</td>
</tr>
<tr>
<td>COMPASS</td>
<td>ACT Range</td>
<td>SAT Range</td>
<td>Place into</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>COAL</td>
<td>0-22</td>
<td>15-16</td>
<td>380-410</td>
</tr>
<tr>
<td></td>
<td>23-240</td>
<td>17-21</td>
<td>420-530</td>
</tr>
<tr>
<td></td>
<td>41-100</td>
<td>22-24</td>
<td>540-590</td>
</tr>
<tr>
<td>COCA</td>
<td>0-45</td>
<td>22-24</td>
<td>540-590</td>
</tr>
<tr>
<td></td>
<td>46-100</td>
<td>25-26</td>
<td>600-650</td>
</tr>
<tr>
<td>Math COTR</td>
<td>0-45</td>
<td>25-26</td>
<td>600-650</td>
</tr>
<tr>
<td></td>
<td>46-100</td>
<td>27-36</td>
<td>660-800</td>
</tr>
<tr>
<td>Reading</td>
<td>0-63</td>
<td>0-13</td>
<td>0-350</td>
</tr>
<tr>
<td></td>
<td>64-80</td>
<td>14-17</td>
<td>360-420</td>
</tr>
<tr>
<td></td>
<td>81-100</td>
<td>18-31</td>
<td>430+</td>
</tr>
<tr>
<td>Science</td>
<td>19-36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* These courses are below the threshold set for financial aid eligibility.

Note that testing above a required course into the next higher level does not relieve you of the necessity to take the lower course if it is itself required for graduation.

Visit the Student Success Center or call 747-2164 for inquiries. We strongly suggest that you take advantage of test-prep materials available at www.act.org/compass/sample before you test.

If you are not satisfied with your scores, you may re-test, but you must wait five business days before being eligible to re-test.

REGISTRATION

Registration for Summer and Fall begins in the middle of April; for Spring, in the middle of October. We encourage you to register as early as you can—and to do so online. Dates for registration activity appear in each session’s Schedule of Classes. First-time-any-college students must attend New Student Orientation in order to register. All registration holds (academic advisement, financial, incomplete admissions) must be addressed by the student and cleared by the appropriate NNMC office before a student can register.

If you wish to register for short courses, you must do so by midnight of the Sunday before the course starts.

Deadlines for course enrollment and changes in enrollment (i.e., dropping and withdrawing) vary based on the length of an individual course’s Part of Term (POT). Detailed information on each different POT appears in each term’s Schedule of Classes. It is important to review this information before you attempt to enroll. You must meet the deadlines.

ENROLLMENT LIMITATIONS

Minimum

For students receiving full-time financial aid, the minimum full-time load for fall, spring, or summer is 12 credit hours. For those not receiving financial aid, the full-time load is 12 credit hours for fall and spring, and 6 credit hours for the summer term.
GRADUATING IN A REASONABLE TIME

In order to complete a program within the norm (2 years for an associate degree or 4 years for a bachelor degree), you need to enroll for 16-18 credits per semester (not including summer sessions and not including any remediation courses which may be required).

CHANGES IN ENROLLMENT

Once you have registered for classes you may find it necessary or desirable to change your schedule. Northern permits such changes if they take place within the time frame specified in the published catalog and/or schedule of classes; i.e., the first week of a regular semester or the first two days of a summer session. This activity usually involves dropping from one class and enrolling in another; however, you may wish to drop only one class or drop all classes. You should always discuss dropping or withdrawing from a course with your academic advisor as well as your financial aid advisor.

A special time limit for moving from one level of English, math, or foreign language is described in the section entitled “Vertical Transfer.”

VERTICAL TRANSFER

Northern recognizes that no diagnostic test (such as its COMPASS, ASSET, etc.) is foolproof in making a decision about which level of English or math is appropriate for any given student. For that reason, if you or your instructor find that you are in the wrong level of English, math, or Spanish during the first two weeks of a fall or spring semester, you may request movement to the next higher or lower level. This movement must take place by the end of the second week of instruction, and the gaining instructor must be willing to accept you into the new class. Note also that this policy does not allow you to move, for example, from an English course to a history course, only vertically within the same academic discipline. Vertical transfer during a summer session must take place by the end of the first week of the session. Contact the Registrar’s Office for assistance with vertical transfer.

ENROLLMENT VERIFICATIONS

Northern New Mexico College has authorized the National Student Clearinghouse to provide enrollment verifications. The National Student Clearinghouse can be contacted at:

Web: www.enrollmentverify.org
Mail: National Student Clearinghouse
     2300 Dulles Station Boulevard, Suite 300
     Herndon, Virginia 20171

Note that it is possible to verify only what you have done or are now doing, not what you intend to do. In other words, you may register in May or July for Fall courses; however, you cannot certify your enrollment for courses before the first day of class in any given term.

ATTENDANCE

You are expected to attend all meetings of courses in which you have enrolled. The opportunity to make up class work or examinations missed through absences is at the
discretion of the instructor. Each instructor establishes attendance requirements for the course and informs students in writing at the beginning of the course by providing them with a copy of the course syllabus.

If you know that you will miss several class meetings because of unforeseen circumstances, you should inform the instructor (of each course) as soon as possible.

If you are funded through any outside agency, you may be subject to additional attendance requirements or reporting.

Important: Certain departments (e.g., Nursing) and certain courses have special policies on attendance which can be found in the handbooks for those departments and in their course syllabi.

**ADMINISTRATIVE WITHDRAWALS**

Although the College recognizes that students must exercise their responsibility to attend and satisfactorily complete courses, it also recognizes that sometimes circumstances come into play that prevent the proper exercise of that responsibility. When it is evident that such circumstances exist, the College will exercise its authority to administratively withdraw the student from courses. Some circumstances which would warrant this action on the part of the College might include a death or sudden serious illness in the immediate family, incarceration, or military activation. In such circumstances, the Registrar will exercise the responsibility for the student as soon as the situation becomes known.

Northern’s policy concerning military activation and deployment permits the Registrar, upon receipt of a copy of the student’s orders, to drop the student from all courses or, if requested by the student, arrange for Incomplete grades to be entered to the record (if appropriate). Our policy is to protect the GPA of such individuals who have been called to active military duty. This same policy covers firefighters activated in the exercise of their profession.

The College also recognizes other situations in which it must exercise its own authority to withdraw students from the College. Examples of such situations might include the failure by a student to complete the payment process, the falsification of admission documents, the failure to reveal previous attendance at other colleges/universities, or a serious violation of the Student Code of Conduct.

**Distance Education**

Northern uses Blackboard as its web-based course management system (LMS) available for traditional classroom, blended, and online courses. Students participate in an interactive relationship with their instructor throughout the semester via a secure site: Instructors post syllabi, lecture notes and class assignments; use email and discussion boards; utilize multimedia content; and conduct class meetings using audio/video technologies. Course assessments including quizzes and exams may be taken using Blackboard; however, instructors determine the proper assessment strategies for their courses.

Northern New Mexico College offers online courses as an alternative to the traditional campus experience. Individuals who have scheduling problems, work full-time, or live at a distance from either campus might want to consider taking an online class.
Courses are completed electronically using a computer with Internet access. Online and blended courses are taught on a semester basis for college credit, and follow the regular Northern course schedule. All Northern admissions and registration deadlines, policies, and procedures apply. Consult the College’s course catalog to determine what format best suits your learning style.

Northern New Mexico College has recently undergone a restructuring of its Interactive Video (IV) network. Using the most current technology, NNMC delivers the highest quality HD video and audio using advanced classroom collaboration tools. The remote user will experience a media-rich classroom necessary for engaging students who learn in a more visual and auditory manner. Interactive Video (IV) courses originate either from Española or El Rito campuses and can reach any designated remote site within New Mexico or the continental United States.

REQUIREMENTS FOR STUDENTS CONSIDERING ONLINE COURSES

- Familiarity with computers and navigating the internet. This includes the ability to complete tasks such as creating, moving, and copying files; installing software/web plug-ins; browsing the web; sending and receiving emails; and using various software programs.
- A computer operating system that meets the minimum technical requirements (see below)
- Familiarity with the Internet and browsing the web.
- A Northern email address, which will be provided when your admission application is processed. You can find it by visiting our website (www.nnmc.edu), clicking on myNNMC, and following the link to Personal Information.

BLACKBOARD LOGIN INFORMATION

Access to Blackboard is available from your personal or campus computers by navigating to http://nnmc.blackboard.com.

Your login information consists of the following:

username = entire Student (Banner) ID, including all leading 0’s, and your assigned 5 numbers (e.g. 0000###)
password = your date of birth (e.g., 122290 for a birth date of Dec. 22, 1990).

COMPUTER HARDWARE AND SOFTWARE REQUIREMENTS

As a general rule, if you have a computer purchased new within the last 3 years, you will probably meet the requirements below.

- Operating Systems:
  Windows XP minimum (Windows 7 preferred)
  Macintosh System 10.5 or higher
- Processor: 1GHz or higher
- Memory: 500 MB of RAM (1 GB recommended)
- Hard Drive Space: 25 GB free disk space for assignments
- Browser: Internet Explorer 8.0; Mozilla Firefox with Flash, and Java plug-ins installed
- Modem: High Speed DSL recommended
USB Flash Drive (2GB): To back up/save your work and take it to any PC.

Headset with microphone & USB mini–cam may be required for some online courses.

Software: If you are enrolled in a course that requires specific software (such as Microsoft Word or Real Player) you will need to purchase the software for your computer, or use the computer lab in the Student Success Center on the Española campus. Northern does not provide course-specific software as part of the enrollment process.

e–Books (electronic textbooks) are required for some blended/online courses; your access key can be obtained from either the Northern Bookstore or your instructor.

The Distance Education Department provides technical assistance to students using Blackboard. Please email distanceed@nnmc.edu, phone our Distance Education Department Support Line 505.747.5446, or visit Distance Education online at www.nnmc.edu for self-support resources.

Undergraduate General Curriculum Requirements and Academic Policies

Every degree or certificate at Northern is structured to provide a certain minimum spread of knowledge and competency for our graduates. In general, if you receive a diploma in a certificate program from Northern, you will have been provided all the job skills and the minimal level of competency in English and mathematics that will be required to obtain entry-level employment in the field. If you earn a degree, your background will be much broader, with exposure to several different types of academic disciplines.

1. Certificate requirements (minimum)
   a. An English course which meets or exceeds the competencies of ENG 108N, Basic English I; and
   b. A math course which meets or exceeds the competencies of MATH 100N, Fundamentals of Mathematics; and
   c. Program course requirements

2. Degree requirements

The following General Education spread are minimum requirements throughout all Associate of Applied Science and Associate of Engineering degree majors shown in this catalog. The standards for Associates of Art or Science are much more detailed.

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications, including ENG 111</td>
<td>6*</td>
</tr>
<tr>
<td>Humanities</td>
<td>3**</td>
</tr>
<tr>
<td>Math/Computer Science and/or Lab Science</td>
<td>6-7***</td>
</tr>
<tr>
<td>Social/Behavioral</td>
<td>3</td>
</tr>
<tr>
<td>Library Technology</td>
<td>1</td>
</tr>
</tbody>
</table>

Total = 19-20
* Must include ENG 111 (English Composition 111)
** Must include FYE 101 (First Year Experience)
*** Six-seven credit hours in mathematics, computer science and/or laboratory sciences.

3. Health, Physical Education, or Recreation courses

Some degrees require a minimum of 1 credit. Any HPER activity course and/or DANC activity course, plus HSCI courses in nutrition, CPR, or First Aid/CPR may be used to satisfy this requirement—unless the course has been used to satisfy some other requirement within the same degree.

In order to facilitate your choice of appropriate courses to fulfill these General Education requirements for the applied science degrees, we have defined certain course disciplines from which courses may be chosen to satisfy general education requirements.

The following are discipline areas acceptable for Associate of Applied Science and Associate in Engineering degrees. Only courses from these breakdowns may be used to satisfy the discipline requirement for General Education electives in an applied science degree or Engineering (course numbers ending in an “N” may never be counted). For example, neither Education nor Criminal Justice are shown below; therefore, neither may be used as elective credits where any specific discipline allows “elective credit.” Also, note that although “Foreign Language” is listed under Communications, ENG 111 is the minimal acceptable course in this area for all degrees.

<table>
<thead>
<tr>
<th>COMMUNICATIONS</th>
<th>HUMANITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>English *</td>
<td>Art (theory only)</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>History</td>
</tr>
<tr>
<td>Speech</td>
<td>Humanities</td>
</tr>
<tr>
<td>* Excludes Literature</td>
<td>Literature</td>
</tr>
<tr>
<td>&amp; Creative Writing</td>
<td>Music (theory only)</td>
</tr>
<tr>
<td></td>
<td>Philosophy</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td></td>
</tr>
<tr>
<td>MATH 130 or higher</td>
<td>Theatre (theory only)</td>
</tr>
<tr>
<td></td>
<td>Second Language</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LABORATORY SCIENCES **</th>
<th>SOCIAL/BEHAVIORAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astronomy</td>
<td>Anthropology</td>
</tr>
<tr>
<td>Biology</td>
<td>Economics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Geography</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>Political Science</td>
</tr>
<tr>
<td>Geology</td>
<td>Psychology</td>
</tr>
<tr>
<td>Physics</td>
<td>Sociology</td>
</tr>
</tbody>
</table>

** In an AAS degree not requiring a specific laboratory experience, any approved math, science, computer, or engineering course will satisfy this requirement.
Northern’s General Education
Common Core Offerings

For purposes of selecting appropriate courses to meet Northern’s Associate of Arts and/or Associate of Science and Northern’s baccalaureate degree requirements for the General Education Common Core, you will select courses from each area shown. Northern New Mexico College’s general education requirements reflect the values of the college and its faculty. The purpose of these courses is to help you achieve a foundation of knowledge that broadens and enriches your abilities to communicate, to think critically, to problem solve, and to broaden your world view regarding global awareness, human values, and social consciousness.

These selections call for you to develop written and oral communication skills, problem solving skills, scientific, historical, cultural, and ethical thinking. Northern has added courses to the state-wide transfer common core which present you with a greater choice of electives. If you will be transferring these courses to another college/university, you may be required to verify acceptance of such courses at the transferring institutions.

In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree. For most associate and bachelor’s degrees, the review led to a reduction of required hours to 60 and 120 respectively. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

FYE 101 (First-Year Experience) is a new course required to be taken within your first 30 credit hours at Northern. Students transferring into Northern’s associate and baccalaureate degree programs who have completed a minimum 30 credit hours of college level courses elsewhere are encouraged to take this course but are not required to do so. If you choose not to take these courses, you must meet the credit-hour requirements with appropriate electives. If you have taken a three-credit-hour First Year Experience course at another college, it will transfer to Northern as FYE 101.

AREA I: COMMUNICATIONS (9 CR)

Required

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I</td>
</tr>
<tr>
<td>SPCH 130</td>
<td>Public Speaking</td>
</tr>
</tbody>
</table>

Elective

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 112</td>
<td>English Composition II</td>
</tr>
<tr>
<td>ENG 116</td>
<td>Technical Writing</td>
</tr>
</tbody>
</table>

AREA II: MATHEMATICS (3 CR)

Elective

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 145</td>
<td>Introduction to Probability &amp; Statistics</td>
</tr>
<tr>
<td>MATH 150</td>
<td>College Algebra</td>
</tr>
<tr>
<td>MATH 151</td>
<td>Conceptual Mathematics *</td>
</tr>
<tr>
<td>MATH 155</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>MATH 162</td>
<td>Calculus I</td>
</tr>
</tbody>
</table>
MATH 163 Calculus II
MATH 264 Calculus III
* Conceptual Mathematics will satisfy the mathematics requirement for all AA/BA/BBA/BM degrees.

AREA III: LABORATORY SCIENCE (8 CR)

Elective

ASTR 110/L Introduction to Astronomy with Lab
BIOL 110/L Current Topics in Biology with Lab
CHEM 110/L Introduction to Chemistry with Lab
ES 112/L Intro to Environmental Science I with Lab
GEOL 101/L Physical Geology with Lab
GEOL 102/L Historical Geology with Lab
PHYS 110/L Introduction to Physics with Lab

This area can also include courses designed for students pursuing science majors: e.g., BIOL 201/L, CHEM 121/L, PHYS 121/L, etc.

AREA IV: SOCIAL/BEHAVIORAL SCIENCES (6–9 CR)*

You must select courses from at least two different discipline areas from the following:

ANTH 101/L Physical Anthropology with Lab
ANTH 102 Intro to Social/Cultural Anthropology
ANTH 110 Indian Cultures of the Southwest
ANTH 207 Cultures of New Mexico
ECON 200 Macroeconomics
ECON 201 Microeconomics
GEOG 111 World Geography
HSS 311 Readings in the Social Sciences **
HSS 414 Humanity and Creativity **
HSS 421 History, Literature, Art & Philosophy **
PSCI 110 The Political World
PSCI 120 Contemporary Political Issues
PSCI 200 American Politics
PSCI 210 State and Local Government
PSCI 212 The American Presidency
PSY 105 General Psychology
PSY 210 Theories of Personality
PSY 229 Adolescent Psychology
PSY 230 Psychology of Adjustment
Second Language Students can use the Second Language Requirement to fulfill the 15 hours required in both Areas IV & V.

The Second Language Requirement will be mandatory for all bachelor degrees and optional for associate degrees. However associate degree students are encouraged to take the Second Language Requirement if they ever intend to pursue a bachelor degree.

Plus, topic courses with student advisor’s approval

AREA V: HUMANITIES AND FINE ARTS (6–9 CR)*

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 105</td>
<td>Introduction to Art</td>
</tr>
<tr>
<td>ART 107</td>
<td>History of Art I</td>
</tr>
<tr>
<td>ART 208</td>
<td>History of NM Art &amp; Architecture I</td>
</tr>
<tr>
<td>ART 211</td>
<td>History of Art II</td>
</tr>
<tr>
<td>DANC 240</td>
<td>Dance Appreciation</td>
</tr>
<tr>
<td>DANC 245</td>
<td>Dance History</td>
</tr>
<tr>
<td>ENG 270</td>
<td>Children’s Literature</td>
</tr>
<tr>
<td>ENG 262</td>
<td>Literature of the Southwest</td>
</tr>
<tr>
<td>ENG/PIS 265</td>
<td>Native American Literature I</td>
</tr>
<tr>
<td>ENG/PIS 266</td>
<td>Native American Literature II</td>
</tr>
<tr>
<td>ENG 280</td>
<td>Readings in Literature</td>
</tr>
<tr>
<td>ENG 290</td>
<td>Study of Literature</td>
</tr>
<tr>
<td>ENG 294</td>
<td>Mythology</td>
</tr>
<tr>
<td>FDMA 280</td>
<td>History of Cinema</td>
</tr>
<tr>
<td>HIST 101</td>
<td>Western Civilization I</td>
</tr>
<tr>
<td>HIST 102</td>
<td>Western Civilization II</td>
</tr>
<tr>
<td>HIST 161</td>
<td>History of U.S. to 1877</td>
</tr>
<tr>
<td>HIST 162</td>
<td>History of U.S. from 1877</td>
</tr>
<tr>
<td>HIST 220</td>
<td>Southwestern Women’s History</td>
</tr>
<tr>
<td>HIST 230</td>
<td>Chicano Experience in the US</td>
</tr>
<tr>
<td>HIST 250</td>
<td>American Indian History</td>
</tr>
<tr>
<td>HIST 260</td>
<td>History of New Mexico</td>
</tr>
</tbody>
</table>
Second Language
Students can use the Second Language Requirement to fulfill the 15 hours required in both Areas IV & V.

The Second Language Requirement will be mandatory for all bachelor degrees and optional for associate degrees. However associate degree students are encouraged to take the Second Language Requirement if they ever intend to pursue a bachelor degree.

*Plus, topic courses with student advisor’s approval*

* If your major is in the area of the Humanities/Fine Arts, unless otherwise regulated by a given department, you should select 6 hrs from Area IV and 9 hrs from Area V; if in the Social/Behavioral Sciences; you should select 9 hrs from Area IV and 6 hrs from Area V. Consult your major advisor. In any case, you must complete a minimum spread of 15 credit hours between areas IV and V.

** Students in associate degree programs are advised that upper-division courses used to satisfy any of these requirements are not covered by financial aid.

AREA VI: FIRST YEAR EXPERIENCE (3 CR)

FYE 101 Freshman Year Experience

This course will be required for all associate and bachelor degrees and should be taken within the first 30 credit hours (preferably in the first semester). Students who have already completed a minimum of 30 credit hours of college level courses do not have to take the FYE course. FYE courses taken at other institutions will also transfer to NNMC.

Total required for associate degrees = 38 semester hours

TOTAL REQUIRED FOR BACCALAUREATE DEGREES = 39 SEMESTER HOURS

An additional new bachelor’s degree requirement that does not add hours to the General Education Core is the Writing Intensive Course requirement. Writing Inten-
sive Courses (which will be designated as WIC) are upper division writing courses that focus on the writing process within specific disciplines. All bachelor degree seeking students are required to take at least one Writing Intensive Course in their declared field of study where they will be given the opportunities to learn the appropriate writing genres for the field, the guidelines of their discipline's writing format, and complete professional writing assignments using models of writing from within their chosen field. The WIC in each bachelor’s degree program is a course that is already part of the program requirements so it does not add to the total number of General Education credits required.

**FOR PURPOSES OF MEETING GRADUATION REQUIREMENTS**, courses that appear on Northern’s General Education Common Core list and that also appear as part of your program/major core will be used to satisfy only major core requirements. For example, if your major requires ECON 200, you may not count this course to also satisfy General Education Common Core requirements.

Programs and their courses listed in this catalog are subject to change through normal academic channels. New courses and changes in existing course work are initiated by the responsible department, approved by the faculty curriculum committee and by the Faculty Senate.

If you have any questions concerning the Application of the General Education Common Core, please check with your academic advisor to avoid signing up for what might be an inappropriate course.

**Grading System**

*Following are the allowable grades and associated grade points:*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.33</td>
<td>Outstanding</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
<td>Outstanding</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
<td>Outstanding</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
<td>Above Average</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>Above Average</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
<td>Above Average</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
<td>Average, Passing</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td>Average, Passing</td>
</tr>
<tr>
<td>C-</td>
<td>1.67</td>
<td>Average, Below Passing*</td>
</tr>
<tr>
<td>D+</td>
<td>1.33</td>
<td>Below Passing*</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>Below Passing*</td>
</tr>
<tr>
<td>D-</td>
<td>0.67</td>
<td>Below Passing*</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Not Passing</td>
</tr>
</tbody>
</table>

Letter grades are issued by instructors to indicate the quality of work done; instructors are not required to issue +/- grades.

*Grades of C- and below do not count toward graduation and do not meet the criteria for satisfying prerequisites.*
From Fall 2008 through Fall 2009 remedial MATH 100N and 102N used letter grades with a suffix of “N.” These grades, such as a BN or a CN were not used in computing a GPA. As of Spring Semester 2010, these grades are no longer used.

The following grade entries are not options which you may choose at the time of registration. They are attached to the course in which you enroll:

- **CR–Credit**: a passing grade which gives credit for the course but is not used in computing your grade point average. Unless you indicate otherwise at the time you register for a course, we assume that a course is desired for “credit.”

- **NC–No Credit**: a failing grade, but one which is not used in computing your grade point average. A grade of NC does not meet the requirements for meeting prerequisites.

- **TR**: a grade used to show that credit has been accepted in transfer for a course taken at other than Northern or is the entry posted in cases of successfully passing a locally-developed exam.

The following grade entries have no effect on your cumulative grade point average nor do they count towards credits earned:

- **AU–Audit**: a grading option which you may choose for any course in which you enroll, but you must indicate this at the time of enrollment or make a change from credit to audit or audit to credit, either by the end of the second week of a regular semester or by the end of the first week of a summer session.

- **W–Withdrawal**: records the fact that you officially withdrew from a specific course at some time after the period established for getting a refund (usually the end of the third week of a regular semester). “Officially” describes a process in which you withdraw online (within given deadlines). Failure to “officially” withdraw from a course results in an automatic failing grade of “F” being assigned to the course. You may not attempt to withdraw from a course after the deadline or if a final examination has already been given for the course. Check each semester’s Schedule of Classes for a detailed breakdown on withdrawal deadlines for those courses which run for less than 16 weeks. Refer any questions to the Registrar.

In certain circumstances, instructors can exercise the right to withdraw students from their courses for failure to attend/having stopped attending. Do not count on this happening—it is your responsibility to withdraw from a course to avoid getting a failing grade.

- **I–Incomplete**: records a course for which, because of serious reasons beyond your control (e.g., you had an automobile accident on the way to the final exam, or you were hospitalized in the last couple of weeks of the term), you were not able to complete that last small portion of the course requirements. By mutual, signed agreement between you and the instructor, and subsequently accepted by the Registrar, you will have up to one year to complete that small portion of the course still lacking. The deadline for completion will usually be one to three months rather than a full twelve months. These deadlines are carefully monitored and, if the grade of “I” has not been promptly removed, the Registrar administratively changes the grade to a failing grade (“F”). Such an administratively-assigned grade cannot later be changed by the original instructor of the course.
The instructor of the course must submit a request to give an “I” grade at the time the instructor turns in the final grade sheet for the course. When the instructor converts the “I” into a regular grade, your transcript will reflect the grade, its grade points, and an adjusted cumulative grade point average.

NR—Not Recorded: used to designate that course for which the instructor failed to turn in the grade on a timely basis. Grades must be run as soon as possible after the deadline for submission, and an “NR” is used to clear those courses for which no grades have been received. This is the only way to get grades entered without undue delay, although it does not often happen that the “NR” is used. “NR” grade entries not changed within 30 days are administratively changed to failing grades.

GRADE CHANGES

A change in grade or a correction of an improperly reported grade may normally be made only by the originating instructor who must complete the proper form (which includes submitting justification for the change), obtaining the required signatures of approval, and delivering the completed form to the Registrar. If you wish, as a student, to challenge a grade, refer to the section of this catalog below dealing with appeals of grades. If the grade you question has been issued by an instructor who is no longer employed by Northern, you should contact the chairperson responsible for that department.

No requests for a grade change or correction will be accepted after one year has passed from the initial assigning of the grade by the instructor. Since Northern does not generally mail grades (see section “Issuance of Grades”), you are responsible for accessing your records online to determine any discrepancy. If anything seems to be incorrect about the grade, it is your responsibility to promptly alert the Office of the Registrar.

GRADE APPEALS

Only you, the affected student, may challenge or appeal a grade which you feel is improper or incorrect. You have twelve months from the date when the grade was assigned and recorded in your records to complete the appeal process.

To initiate the appeal, you must complete the following steps:

1. Complete the Student Petition for Grade Appeal Form available on the Registrar’s webpage.

2. Discuss the situation with the instructor who gave the grade. If the matter is not resolved to your satisfaction, you may appeal to the instructor’s immediate supervisor (usually the department chairperson, although some departments will have an intermediary step, such as a program director).

3. Provide the responsible department chairperson with a written summary of the situation and a detailed, specific statement of what you want. If the matter is not resolved to your satisfaction by the department chairperson, you may appeal to the Scholastic Standards Committee, which is a faculty committee.

4. Provide the Scholastic Standards Committee chairperson with a written summary of the situation and a detailed, specific statement of what you want. The Committee recommendation will be forwarded to the Provost for appropriate action.
Note: Please get all signatures on this form in the appropriate place before the Standards Committee will take any action. Upon receipt of this form, the Standards committee chair will schedule your appeal time and date. The Chair of the committee will not participate, influence, or vote on the appeal.

GRADE POINT AVERAGE (GPA)

You may calculate your GPA by dividing the number of grade points earned by the total number of credit hours generating those points, excluding any course for which a grade of W, NC, CR, AU, or I has been recorded and any course which was accepted by Northern in transfer. Your GPA is based only on courses taken at Northern, not on course grades transferred to Northern from another college or university.

ISSUANCE OF GRADES

All grades are available online. Northern does not mail mid-term and final grade reports.

ACADEMIC FORGIVENESS

Northern recognizes that sometimes students are not academically prepared to start college, or are perhaps not emotionally or socially prepared, and sometimes receive failing grades or have to withdraw in their first term(s). The results may follow them throughout their academic careers and even affect them to the point that they drop out of college or are denied financial aid. Northern has, therefore, adopted a policy which allows those who fall into this category to request that such grades be deleted from their academic transcript. Students who meet all of the criteria listed below may submit a Request for Academic Forgiveness form to the Office of the Registrar, who is responsible for administering this policy. The criteria for exercising Academic Forgiveness:

1. The term(s) for which you seek forgiveness must have happened at least three years prior to your formal request for forgiveness, and your semester GPA at that time for each term involved must have been below 2.00; and

2. The terms involved are limited to your first, or first two, terms at Northern; and

3. Since returning to Northern, you must have completed at least 12 credit hours (spread over one or more terms) and must have a minimum cumulative GPA of 2.00 over those courses (completed after the period for which forgiveness is sought) before applying for forgiveness; and

4. You must not yet have graduated from Northern.

The result of achieving Academic Forgiveness will be that the term(s) and all associated courses in that term(s) will no longer appear on your transcript, although a notation will appear on the transcript to the effect that “Academic Forgiveness was granted for (whichever term was appropriate).” A separate paper trail will be maintained to track the action taken.

REPEATING COURSES

You may re-enroll, without special permission, for any course which you have taken at Northern. Each course enrollment and its grade will appear on your transcript, but
only the last grade earned will be used to calculate your cumulative GPA and only the last grade earned will be counted toward graduation.

Some courses, however, are already designed to permit a certain number of repeats (i.e., a HPER course, an ART-studio course, etc.) without affecting your cumulative GPA. For such repeatable courses, each enrollment and its grade will be counted, not just the last.

If, because of curricular changes that take place, the repeat of a course has a different credit hour value, the value of the repeat course (the latest) will be used to calculate your cumulative GPA and to satisfy graduation requirements.

If you do not pass a course which is a prerequisite to enrolling in another, higher level course, you must repeat the prerequisite course before enrolling at the higher level. An example of this would be completing ENG 109N with a grade of CR before being able to enroll in ENG 111.

Please note: certain forms of financial aid will not provide assistance for repeats of courses which have previously been successfully completed. Compliance with such regulations is your responsibility if you receive such assistance.

SCHOLASTIC STANDINGS

Scholastic standing will be determined at the close of each semester and an appropriate entry posted to your transcript. In the absence of any other notation, you may assume that you are in Good Standing.

Your end-of-term standing (Good Standing, Dean’s List, Probation, or Suspension) is based on the total number of semester hours attempted and the GPA achieved for those credit hours and is permanently recorded on your transcript.

Regulations governing academic probation and suspension are based on the 2.00 minimum cumulative GPA which is required to graduate from any certificate or degree program offered by Northern. A semester of course work with less than a 2.00 GPA results in a deficiency which must be removed in succeeding semesters if you are to graduate or successfully transfer to another college or university.

GOOD STANDING

You are considered to be in Good (academic) Standing if your cumulative GPA is at or above the 2.00 level.

THE DEAN’S LIST

At the end of each fall and spring semesters, the Dean’s List is published as the official recognition of outstanding academic accomplishments. Only full-time students who are pursuing a declared major and who have earned a semester GPA of at least 3.50 over a minimum of 12 credit hours (excluding any courses labeled as remedial) are eligible for this honor. The entry Dean’s List will be posted to your transcript, and you will receive a letter of congratulations from the College Provost.

Note: The following policies regarding probation and suspension relate to academic probation and suspension, not financial aid probation and suspension. For financial aid policies, see pages 46-52.
ACADEMIC PROBATION

If, at the end of any term, your cumulative GPA, based on at least 16 credit hours of course work attempted at Northern, fails to equal at least a 2.00, you will be placed on Academic Probation.

Probation is not a penalty, but an emphatic warning that the quality of your work must improve if you are to attain the GPA necessary to graduate from Northern. You may not appeal probation.

If you are notified that you are on Probation, you may continue to enroll, but you must maintain a semester GPA of 2.00 or higher, and you will not be permitted to enroll in more than 12 credit hours of course work during a regular semester or more than 6 credit hours during a summer session without special permission from the Provost. As you continue to raise your GPA, your status will be recorded as Continued Academic Probation until you have achieved a cumulative GPA of 2.00 or higher and achieve Good Standing.

ACADEMIC SUSPENSION

If, at the end of any term, your cumulative GPA, based on at least 36 credit hours of course work attempted at Northern, fails to equal at least a 2.0, you will be placed on Academic Suspension, which may or may not have been preceded by a period of Academic Probation or Continued Academic Probation.

The duration of an initial suspension is one semester; for subsequent, repeat suspensions, one full year. If you have registered early for a succeeding term and then are put on suspension, the Registrar's Office will delete your enrollment until after you have submitted an official appeal. Under these conditions, you will have no guarantee of enrollment in the course which will have been dropped.

At Northern, Suspension is not viewed as a penalty for failure, but rather as an opportunity to deal with the pressures of life and school (which may have contributed to the low grades that brought on a period of Suspension) prior to re-applying for admission and a chance to continue your education.

SUSPENSION APPEAL

If you have been placed on Academic Suspension, you may appeal such status by:

1. Providing the Registrar with a letter of appeal, stating what caused the low grades which resulted in suspension and what you plan to do to correct the situation. If the Registrar accepts the appeal, you will be re-admitted to the College on Academic Probation and may be restricted in terms of the number of hours for which you may enroll and/or in terms of specific courses which you must take or may not take.

2. If the Registrar denies your appeal, you may appeal to the Faculty’s Scholastic Standards Committee, providing that Committee with a written summary of the situation and a detailed, specific statement of what you want. If the Committee recommendation is in your favor, it will send its recommendation through the Faculty Senate to the Provost for approval and forwarding to the Registrar for action.
Graduation

GENERAL REQUIREMENTS

In order to be eligible to receive a degree or certificate from Northern, you are responsible for meeting the following requirements as well as meeting specific admission and course requirements listed under the major you have chosen to pursue.

1. An overall cumulative GPA of 2.0 or higher and completion of all required course work with no grade below a “C.” Effective Fall 2008, with the adoption of +/- grades, a course with a grade of C- cannot be counted toward graduation. Certain programs with professional accreditation may require special or additional standards for graduation.

2. You may not count toward degree requirements any course considered to be remedial in nature (i.e., usually bearing a suffix of “N,” such as MATH 100N). Certain certificate programs, however, may allow you to count a limited amount of remedial work against graduation requirements in the area of General Education.

3. You may not count a course more than once for any requirements for a certificate, degree, major, or minor. This includes courses required for a major that might also be on the list for General Education courses, courses in a minor that are also required for a major or vice versa, etc. One exception is that General Education as well as core courses in a degree program may count toward a double major, as long as you have taken all of the other distinct courses in the second major. In addition, students pursuing a second degree may use the same General Education and required major core courses for both degrees as long as you take an additional 30 new hours approved by the Department chair of the second department.

4. Residency for Graduation: for a certificate or associate degree program, you must have earned at Northern at least the last 15 credit hours towards an associate degree or certificate; for a baccalaureate degree, the minimum is the last 30 credit hours. Any exception to this must be cleared by the Registrar before your last term at Northern starts. Failure to comply may be grounds for denying acceptance of your courses in transfer, thus delaying graduation.

5. Upper Division Coursework Requirement: Students must complete 40 credit hours of upper division coursework for a Baccalaureate degree. Of the 40 credit hours, 20 credit hours are to be in the major.

6. You must complete an online Graduation Application as well as a Petition to Graduate form. This includes payment of the required graduation fee, (currently $100.00 (2015-2016); obtaining sign-offs by your academic advisor and department chair; and submission of the petition through various college departments for signatures; and finally to the Office of the Registrar. Applications are due by the end of the second week of the semester you intend to graduate. Check the Academic Calendar for the exact deadline. The Registrar will conduct a further review of your records and, if the Registrar is satisfied, you will receive notification which will confirm your candidacy for graduation.

7. If you start a program and continue uninterrupted, you are entitled to graduate under the terms of the degree plan in the catalog in effect at the time of your initial written declaration of the major or under any later issued catalog, whichever is more beneficial to you.

If, however, you interrupt your attendance by more than two (2) regular semesters
of non-attendance (e.g., Fall 13 and Spring 14 or Spring 14 and Fall 14), you will be bound by the terms of the catalog in effect at the time of your latest re-admission to the College.

8. You cannot receive your diploma or official transcripts if you owe a debt of any kind to the College or if your undergraduate admission status is incomplete.

9. Your diploma(s) will reflect the legal name under which you have been admitted to Northern. If you wish any other name to appear, you will have to document a legal change of name (as described in the section titled “Change of Name”) prior to graduation.

10. Replacement diplomas will be provided for a fee of $7.50 each, but only if the diploma was awarded since 1999. Northern cannot produce a diploma for any period earlier than 1999.

11. Graduation takes place at the end of the semester in which all program requirements and financial requirements have been met, even though there may not be a formal graduation ceremony scheduled for that semester. In other words, you may have completed all of the required courses in a prior term, but if you haven’t paid the graduation fee and/or completed the processing during the same term in which you completed the course work, you won’t graduate until the end of the term in which the last requirements are met (payment, for example). If you should find yourself in this situation, you must submit a Graduation Application and Petition-to-Graduate within two years of having completed all of your program requirements.

GRADUATION WITH HONORS

You will meet the requirements for graduating with honors if you have completed at least 50 percent of your program requirements here at Northern. Your transcripts and diploma will reflect that honor within the following guidelines:

- Cum Laude: 3.50–3.74 cum. GPA
- Magna Cum Laude: 3.75–3.94 cum. GPA
- Summa Cum Laude: 3.95–4.00 cum. GPA

GRADUATION WITH MENTION OF HONOR SOCIETY MEMBERSHIP

If you are a member in good standing in Northern’s Alpha Lota Sigma chapter of Phi Theta Kappa, the international honor society for two-year colleges, you will be entitled to wear the Society’s honor regalia at graduation. See the chapter advisor for information on membership and honor regalia.

ALUMNI STATUS

Once you have graduated from a program, you become a Northern alum. This is an important role: satisfied graduates make the best recruiters for any college. You satisfy this role by mentioning where you received your degree and recommending Northern to family, friends, and co-workers as well as by becoming active in the Northern Alumni Association.

As an alum, it is important that you stay in touch with Northern and keep your information current for our records.
## Tuition & Fees

Tuition, general fees, and other charges are subject to change at any time by the College Board of Regents.

### UNDERGRADUATE

<table>
<thead>
<tr>
<th>NEW MEXICO RESIDENTS</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-11 hours, per credit hour (Part-time)</td>
<td>$124.69</td>
<td>$57.26</td>
<td>$181.95</td>
</tr>
<tr>
<td>12 to 18 hours = block (Full-time)*</td>
<td>$1496.28</td>
<td>$687.12</td>
<td>$2183.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SENIOR RESIDENTS</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per credit hour (6 hours or less)</td>
<td>$5.00</td>
<td>$57.26</td>
<td>$62.26</td>
</tr>
<tr>
<td>Per credit hour (more than 6 hours)</td>
<td>$124.69</td>
<td>$57.26</td>
<td>$181.95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-RESIDENTS (including international students)</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-11 hours, per credit hour (Part-time)</td>
<td>$463.32</td>
<td>$57.26</td>
<td>$520.58</td>
</tr>
<tr>
<td>12 to 18 hours = block (Full-time)</td>
<td>$5559.84</td>
<td>$687.12</td>
<td>$6246.96</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-RESIDENTS (Western Undergraduate Exchange)**</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-11 hours, per credit hour (Part-time)</td>
<td>$187.04</td>
<td>$57.26</td>
<td>$244.30</td>
</tr>
<tr>
<td>12 to 18 hours = block (Full-time)*</td>
<td>$2244.48</td>
<td>$687.12</td>
<td>$2931.60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMMUNITY RATE</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per credit hour (6 hours or less)</td>
<td>$80.00</td>
<td>$20.00</td>
<td>$100.00</td>
</tr>
<tr>
<td>Per credit hour (more than 6 hours)</td>
<td>$124.69</td>
<td>$57.26</td>
<td>$181.95</td>
</tr>
</tbody>
</table>

### GRADUATE

<table>
<thead>
<tr>
<th>NEW MEXICO RESIDENT</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per credit hour + flat fee for 1 - 6 hours</td>
<td>$135.04</td>
<td>$217.80</td>
<td>$352.84</td>
</tr>
<tr>
<td>Per credit hour + flat fee for over 6 hours</td>
<td>$135.04</td>
<td>$326.80</td>
<td>$461.74</td>
</tr>
<tr>
<td>Engineering per credit hour + flat fee for 1 to 6 hours</td>
<td>$135.04</td>
<td>$392.04</td>
<td>$527.08</td>
</tr>
<tr>
<td>Engineering per credit hour + flat fee for over 6 hours</td>
<td>$135.04</td>
<td>$588.06</td>
<td>$723.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-RESIDENT</th>
<th>Tuition</th>
<th>General Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per credit hour + flat fee for 1 to 6 hours</td>
<td>$202.55</td>
<td>$217.80</td>
<td>$420.35</td>
</tr>
<tr>
<td>Per credit hour + flat fee for over 6 hours</td>
<td>$202.55</td>
<td>$326.80</td>
<td>$529.25</td>
</tr>
<tr>
<td>Engineering per credit hour + flat fee for 1 to 6 hours</td>
<td>$202.55</td>
<td>$392.04</td>
<td>$594.69</td>
</tr>
<tr>
<td>Engineering per credit hour + flat fee for over 6 hours</td>
<td>$202.55</td>
<td>$588.06</td>
<td>$790.61</td>
</tr>
</tbody>
</table>

Additional charge: Registration (flat fee per semester) $27.23

Note: Course-specific fees may apply, such as lab or online class fees.

*Each credit hour over 18 will be charged at $181.95 per hour.

** Reduced rate of 150% of resident tuition for eligible degrees, offered through the Western Undergraduate Exchange (www.wiche.edu/wue).
LATE FEES

Late Registration Fee $35.00
Online Payment Plan Late Fee $10.00

OTHER FEES (as applicable)

Online Payment Plan $25.00
Graduation* $100.00
Cap & Gown $37.50
Additional/replacement diplomas $7.50
Unofficial Transcript $2.00
Official Transcript $5.00
ID Card replacement $5.00
Lab Course (per course) $75.00
CPR $27.00
Course Fee Field Experience $50.00
Fingerprinting (one-time fee) $20.00
Background Check Fee (one-time fee): $65.00
Capitol Challenge $40.00
Standard Nurse Testing $112.50
Institutional Testing (LDCE Exam) $20.00
Capstone Test-Business $25.00
GED Testing $20.00
In-house examinations (per course) $20.00
CLEP/DSST examination (per course) $15.00

ESTIMATED EXPENSES FOR NEW MEXICO RESIDENT PER SEMESTER

Tuition: see pertinent section about resident vs. non-resident on page 38.
Books, Supplies, and Equipment: $600.00
Living Expenses/Other: $650.00

SPECIAL ASSESSMENTS
In the event of damage to College property, the College reserves the right to charge those responsible for replacement or repair costs.

PAYMENT POLICY
All charges incurred in connection with college attendance are payable in advance of the services rendered. Tuition, fees, and other charges are subject to change at any time by the Northern New Mexico College Board of Regents.

Once you have registered for a class, you are liable for payment in full unless you drop the class within the period designated for a full (100%) refund. Failure to pay will result in disenrollment. Check the Course Schedule or myNNMC for exact disenrollment dates and other deadlines for each semester.

*The $100.00 graduation fee covers costs of graduation, such as the diploma, diploma cover, honor cords, etc. It does not include the cost of cap and gown.
Northern has a Payment Plan which you can automatically access by paying 10% of the total charges at the time you register, and a $25.00 service charge. For summer sessions, there will be two installments due on 15th of each month; for fall and spring semesters, there will be three installments due on the 15th of each month. When you enter into the agreement, you will be charged a fee of $25.00. If your payment(s) is late, you will be charged a $10.00 late payment fee.

You are responsible for payment of all financial obligations when due. If you fail to do so, there will be sufficient cause to: 1) prevent further registration; 2) withhold academic records, including transcripts and diplomas; and 3) take disciplinary action including suspension or dismissal.

The Bill+Payment System is a secure site. You can access the Bill+Payment System by clicking on TouchNet Online Bill Pay after logging into myNNMC (next to the search field at the top of the Northern’s home page). There you can:

1. View your tuition and fee charges for the term.
2. Make an online payment using your debit card, credit card, or electronic check.
3. Enroll online for a payment plan (Note: A $25 service charge is assessed and due at time of enrolling in a payment plan; a late fee of $10 will be assessed if the payment plan amount is not paid by the due date.)
4. Sign up for electronic refund of your financial aid or any credit balances on your student account. All refunds will be delivered via Direct Deposit.
5. Authorize parent or third party access to your student account information to make an online payment or enroll online for a payment plan on behalf of the student.
6. Receive automatic emails sent to you and/or an authorized third party when payments are due or a new statement is posted. Note: You must activate your NNMC email account. Instructions are available at myNNMC

Personal checks submitted for any fees must have your student ID number written on them. If you prefer to not have your student ID on your check, you may submit payment by cashier’s check, money order, or cash. The cashier will write your student ID number on checks if you have not already done so.

Students expecting payment by a third party must turn in authorization documentation to Student Billing a minimum of 2 weeks prior to the class start date.

OTHER DEADLINES

Departments that offer assistance grants for special programs must turn in authorization documentation to Student Billing a minimum of 2 weeks prior to the class start date.

Tuition waivers for faculty and staff must be received in the Business Office a minimum of 2 weeks prior to the class start date. Note: Faculty and staff are responsible for paying 100% of all required fees and books. You may choose to set up a payment plan to pay these fees or make payments via payroll deduction. Otherwise fees must be paid in full when you register.

Failure to submit authorizations, pay in full or enroll in a payment plan in a timely manner will result in disenrollment. Disenrollment is one week before the semester begins and the two subsequent Fridays through the first week of the semester.
Some Exceptions

SENIOR CITIZENS

1. If you are age 65 and above and are classified as a resident of New Mexico, you will be charged $5.00 per credit hour if you enroll for 6 credit hours or less. If you enroll for more than 6 credit hours in such courses, charges for credit hours in excess of 6 will be charged at the regular rate of $124.69 per credit. New Mexico Senior Citizens are subject to all regular student fees.

COLORADO RECIPROCITY

The states of New Mexico and Colorado have entered into an agreement which permits citizens of either state to attend the other state’s colleges at in-state tuition rates. There are some restrictions. For example, Northern will permit any Colorado resident to be admitted and enroll under the terms of this agreement, limiting the privilege in only one program (Nursing), for which no more than three Colorado residents may be enrolled at any one time; Colorado restricts this reciprocity to New Mexico residents attending only those colleges near the New Mexico/Colorado border. Check with the Admissions Office to see if you are eligible.

If you are a resident of Colorado and maintain your Colorado residency while attending Northern, you may be eligible to enjoy in-state tuition rates if you enroll for not less than 15 credits per regular term. Check with the Admissions Office at the time you are admitted and/or each term when you register for classes.

Note: If you are admitted and register under this basis, you will not be eligible to claim New Mexico residency until one full year has passed since you ceased enrollment under the reciprocity agreement.

If you are granted this waiver, it is applicable to fall and spring terms only.

WESTERN UNDERGRADUATE EXCHANGE (WUE)

New Mexico is one of several states which have entered into an agreement which allows students to attend college in another state at a rate of tuition which is between in-state and out-of-state tuition. This is designed primarily to allow a citizen to pursue a degree which is not offered in his own home state but which is offered in another state which is signatory to the agreement.

If you are a resident of one of the following states, you may be eligible to enjoy a tuition rate ($150.68 per credit) which is 150% of the in-state rate: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, or Wyoming.

To use this benefit, you must clearly state your intention to do so on your Application for Admission form [there is a box to check on the form].

Check with the Admissions Office each time you register for classes. You must register for at least 15 credit hours to use this benefit.

Note: If you are admitted and register under this basis, you will not be eligible to claim New Mexico residency until one full year has passed since you ceased enrollment under the reciprocity agreement.

If you are granted this waiver, it is applicable to fall and spring terms only.
DETERMINATION OF RESIDENCY STATUS

A. At time of first admission. A person’s residency classification for tuition purposes shall be determined at time of admission and must be completed by the census date of that first enrollment in a given public postsecondary educational institution. A person not meeting the residency requirements shall be classified as a non-resident for purposes of tuition charges. The student’s classification at time of admission remains in effect unless the individual is re-admitted to the institution or until the individual petitions to become a New Mexico resident.

B. Petition for resident tuition classification. Once determined a non-resident at the time of census date, a student can petition to be classified as a New Mexico resident by completing the Petition for resident tuition classification form (see Paragraph (3) of Section B of 5.7.18.12 NMAC, procedure to petition for resident tuition classification).

5.7.18.8 NMAC–Rp, 5.7.18.10 NMAC, 8/30/2007

REQUIREMENTS TO ESTABLISH NEW MEXICO RESIDENCY:

To become a legal resident of New Mexico for tuition purposes each of the following requirements must be satisfied:

A. Twelve month durational requirement. A person must physically reside in New Mexico for the twelve consecutive months immediately preceding the term for which the resident classification is requested.

B. Financial independence requirement. Only persons who are financially independent may establish residency apart from parents or guardians. A student cannot be approved for residency who is financially dependent upon his or her parents or legal guardians who are non-residents of New Mexico. Dependency will be determined according to the 1954 Internal Revenue Service Code, Section 152 and is always based on the previous tax year for residency purposes. If under the age of 23 at the time the student applies for residency, a copy of his/her parents’ or guardians’ 1040 or 1040A U.S. income tax form for the previous tax year is required. If the student is shown to be a dependent on this tax form, he/she will not be considered financially independent or eligible for residency during the current year.

C. Written declaration of intent requirement. The student or person must sign a written declaration of intent to relinquish residency in any other state and to establish it in New Mexico.

D. Overt acts requirement.

(1) Overt acts are required to evidence support of the written declaration of intent to establish permanent residency in New Mexico. Any act considered inconsistent with being a New Mexico resident, such as having a valid driver’s license from another state, will cause the request for resident classification to be denied. The required overt acts are evidence of any two of the following:

(a) the applicant is financially dependent, a copy of the parent or guardian’s previous year’s income tax return showing the applicant as a dependent and the parent’s address as New Mexico; or

(b) a New Mexico high school transcript issued in the past year confirming attendance at a New Mexico public or private high school within the past twelve (12) months; or
(c) a transcript from an online high school showing a New Mexico address confirming attendance within the past twelve (12) months; or

(d) a New Mexico driver’s license or ID card with an original date of issue or a renewal date issued prior to the first day of the term or semester; or

(e) proof of payment of New Mexico state income tax for the previous year; or

(f) evidence of employment within the state of New Mexico; or

(g) New Mexico vehicle registration; or

(h) voter registration in New Mexico; or

(i) proof of residential property ownership in New Mexico; or

(j) a rental agreement within New Mexico; or

(k) utility bills showing the applicant’s name and a New Mexico address; or

(l) other evidence which would reasonably support the individual’s intent to establish and maintain New Mexico residency.

(2) The department recognizes that there may be circumstances in which a student would not be able to fulfill the requirements of an overt act as listed in this section, such as: 1) individual is physically disabled and does not have a driver’s license, or 2) individual is a convicted felon and therefore cannot vote, etc. In instances such as these, the institution will afford the student an opportunity to provide other documentary evidence or reasonable explanation which demonstrates that permanent residency in New Mexico has been established by the student.

E. Exceptions to the twelve (12) month requirement. If a student has met the requirements of one of the following exceptions, and is granted residency status, the student shall continue to be classified and reported as a resident for subsequent continuing enrollment.

(1) An individual married to a legal resident of New Mexico and providing appropriate evidence shall not be required to complete the 12-month durational requirement but must satisfy all other requirements listed in Subsections B, C, and D of 5.7.18.9 NMAC.

(2) Any person, their spouse and dependents who move to New Mexico or who now live in New Mexico and who provide appropriate evidence that they work in a permanent full-time position or practice a profession or conduct a business full-time in New Mexico, shall not be required to complete the 12-month durational requirement but must satisfy all other requirements listed in Subsections B, C, and D of 5.7.18.9 NMAC.

(3) Any person entering the active [military] service of the United States while a resident of New Mexico and who enters a state institution of postsecondary education in New Mexico after separation from such service may be classified as having been a legal resident in New Mexico during the time spent in the service provided they:

(a) have not while in the service done anything (such as voting in another state) to show abandonment of their New Mexico residency;

(b) have not established residence in some other state subsequent to being separated from service;

(c) return to New Mexico within one year after separation from service with the intention of maintaining this state as their legal residence;
(d) are not a dependent minor with parent(s) or guardian(s) whose place of residence classifies him or her as a non-resident of New Mexico.

(4) Any person, their spouse and dependents, who move to New Mexico for retirement purposes, and who provide appropriate evidence of retirement shall not be required to complete the 12-month durational requirement. They must, however, satisfy the other requirements listed in Subsections B, C, and D of 5.7.18.9 NMAC. [5.7.18.9 NMAC—Rf, 5.7.18.11 & 12 NMAC, 8/30/2007; A, 5/30/2008]

5.7.18.10 WAIVERS

If a student has met the requirement of one of the following waivers, the student shall continue to be considered a non-resident for reporting purposes but will receive the benefit of in-state tuition rates. In receiving such a waiver, the student does not become eligible for state-funded student financial aid, unless the regulations for a particular aid program allow for such eligibility.

A. American Indian nations, tribes and pueblos. All out-of-state members of an American Indian nation, tribe, and/or 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: Navajo Nation, Jicarilla Apache, Mescalero Apache, Taos Pueblo, Picuris Pueblo, Ohkay Owingeh, Santa Clara Pueblo, Nambe Pueblo, 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.

B. Armed forces. Any person, their spouse or dependent child, not otherwise entitled to claim residence, who is a member of the armed forces of the United States or armed forces of a foreign country assigned to active duty in the state of New Mexico, will be assessed in-state tuition rates.

(1) Assignment to active duty within New Mexico must be certified by the military person’s commanding officer upon the student’s initial enrollment. Such students may continue paying resident rates for as long as they attend consecutive semesters at the same institution.

(2) Pursuant to Section 21-1-4.5 NMSA 1978, a spouse or child of an active member of the armed forces who dies or is killed becomes a resident of New Mexico within sixty (60) days of the date of death.

(3) Pursuant to Section 21-1-4.5 NMSA 1978, if an active member of the armed forces is stationed outside New Mexico following assignment to duty in New Mexico, and the member’s spouse or child has established residence in New Mexico and registers a letter of intent to establish and continue residing in New Mexico, the spouse or child shall be assessed in-state tuition rates.

C. National Guard. Pursuant to Section 20-4-14, NMSA 1978, an active member of the National Guard and the member’s spouse and children shall be deemed in-state residents for purposes of determining tuition and fees at all state institutions of higher learning.
D. **Summer session.** During summer sessions, non-resident tuition may be waived according to the institution’s tuition policy.

E. **Certain Texas residents.** Pursuant to Section 21-1-3D, NMSA 1978, for the purposes of tuition payment and budget and revenue calculations, the board of regents of any post-secondary, state educational institution, as defined in Article 12, Section 11 of the constitution of New Mexico (specifically, NMHU, ENMU, NMSU, or WNMU), may determine that any Texas resident who resides within a (one hundred thirty-five) 135 mile radius of that institution may qualify for in-state tuition rates.

F. **Colorado and Arizona reciprocity.** Tuition reciprocity participants from Colorado and Arizona shall be selected by eligible institutions to pay in-state tuition rates based on criteria set by forth by each eligible institution. The department will notify each eligible institution of the maximum waivers allocated on an annual basis.

G. **Athletic scholarship recipients.** Pursuant to Section 21-1-3E, NMSA 1978, for the purposes of tuition payment and budget and revenue calculations, any student (U.S. citizens and foreign nationals) receiving an athletic scholarship from a post-secondary educational institution set forth in Article 12, Section 11 of the Constitution of New Mexico (specifically, UNM, NMSU, NMHU, ENMU, [or] WNMU, or NNMC) may qualify for in-state tuition rates.

H. **Competitive scholarship recipients.** Any student participating in this program shall be recognized as a competitive scholar and reported as such, unless the student petitions for and is granted residency status.

I. **Graduate assistants, including research and teaching assistants,** employed at least one-fourth time (10 hours weekly), will be assessed in-state tuition rates. To be eligible, students (U.S. citizens and foreign nationals) must be enrolled full-time, as defined in the graduate catalogue of the public postsecondary institution, during regular terms.

J. **Nondiscrimination principle.** Any tuition or state-funded financial aid that is granted to residents of New Mexico shall also be granted on the same terms to all persons, regardless of immigration status, who have attended a secondary educational institution in New Mexico for at least one year and who have either graduated from a New Mexico high school or received a General Educational Development (GED) certificate in New Mexico. State-funded financial aid programs with an employment component may require U.S citizenship or eligible non-citizen status.

[5.7.18.10 NMAC–Rp, 5.7.18.12 NMAC, 8/30/2007; A, 5/30/2008]

**APPEAL OF RESIDENCY**

If, after your residency classification has been assigned, you feel that the admissions office has made a wrongful determination, you should contact the Dean of Students to appeal. If you are still not satisfied, you may direct a written letter of appeal to the Chairperson of the Student Appeals Committee. According to state law and the New Mexico Higher Education Department, Northern’s appellate process is your last recourse prior to the courts (citation: HED Rule 910.10, effective 6/19/92).
Refunds

TUITION AND FEES

Refunds are computed from the course cancellation or enrollment drop date according to the following schedules:

<table>
<thead>
<tr>
<th>COURSE LENGTH (in weeks)</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-longer</td>
<td>100%</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>12-15</td>
<td>100%</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>9-11</td>
<td>100%</td>
<td>75%</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>100%</td>
<td>50%</td>
<td>None</td>
</tr>
<tr>
<td>6-7</td>
<td>100%</td>
<td>25%</td>
<td>None</td>
</tr>
<tr>
<td>3-5</td>
<td>100%</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>1-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Note: No refund is made on regular or late registration fees, or in the case of disciplinary suspension or dismissal. If you are dismissed for falsification of records, eligibility for a refund will be entirely at the option of the College.

REFUNDS APPEAL

If you believe that the College’s policy for the refunding of charges has not been properly implemented, you may appeal to the Student Appeals Committee by providing the committee chair a letter of appeal, stating in detail what you believe to be inappropriate or incorrect with the decision. If the Student Appeals Committee upholds your appeal, the refund will be adjusted appropriately.

DROPPING/WITHDRAWING FROM COURSES

Once you have registered, you may drop (during the refund period) or withdraw (after the refund period) from any course online—without special permission—at www.nnmc.edu. Click on myNNMC, then on Banner Connect, and follow the directions. You may not drop or withdraw from a course by telephone, nor may anyone other than you or your instructor drop or withdraw you from a course.

If it is established that you have never attended or have at least three consecutive absences during the first three weeks of a regular term (first week of a summer session) without prior knowledge of your instructor, that instructor has the right to withdraw you from the course—has the right to, but does not have to withdraw you. If you should stop attending a class after the deadlines mentioned above, do not assume that you will be withdrawn by your instructor—follow the instructions in the previous paragraph to avoid being billed or receiving an “F” for the course(s).

If you drop a course within the refund period (the first two weeks of a regular fall or spring semester or the first week of a summer session), your enrollment in that course will not appear on your transcript. If you drop during the third week of a regular term, or after the first week of a summer session, no record of your enrollment in that course will appear, and you will not receive a refund.
DEADLINES FOR WITHDRAWING FROM FULL-TERM COURSES AND LESS THAN FULL-TERM COURSES:

<table>
<thead>
<tr>
<th>COURSE LENGTH</th>
<th>DEADLINE TO WITHDRAW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-7 days</td>
<td>before scheduled class</td>
</tr>
<tr>
<td>2 weeks</td>
<td>end 2nd day of course</td>
</tr>
<tr>
<td>3 weeks</td>
<td>end 1st week</td>
</tr>
<tr>
<td>4 weeks</td>
<td>end 2nd week</td>
</tr>
<tr>
<td>5 weeks</td>
<td>end 3rd week</td>
</tr>
<tr>
<td>6 weeks</td>
<td>end 4th week</td>
</tr>
<tr>
<td>7 weeks</td>
<td>end 5th week</td>
</tr>
<tr>
<td>8 weeks</td>
<td>end 6th week</td>
</tr>
<tr>
<td>9 weeks</td>
<td>end 7th week</td>
</tr>
<tr>
<td>10 weeks</td>
<td>end 8th week</td>
</tr>
<tr>
<td>11 weeks</td>
<td>end 9th week</td>
</tr>
<tr>
<td>12 weeks</td>
<td>end 10th week</td>
</tr>
<tr>
<td>13 weeks</td>
<td>end 11th week</td>
</tr>
<tr>
<td>14-16 weeks</td>
<td>end 12th week</td>
</tr>
</tbody>
</table>

STUDENTS RECEIVING ASSISTANCE UNDER TITLE IV FUNDS

If you are or will be receiving federal funds under Title IV during any period of enrollment and if during that time your enrollment is terminated (your registration is cancelled, you withdraw, or you are expelled) or you stop attending classes before completing more than 60 percent of the enrollment period, you will be subject to repayment of all or a portion of that aid. The amount of aid which you might be subject to repay is determined by regulations as set in Section 484B of the Higher Education Act, which also specifies the order of return of the Title IV funds to the programs from which they were awarded. Note: Students will receive financial aid refunds via Direct Deposit.

Detailed information concerning the method of calculating such a refund may be obtained through Northern’s Office of Financial Aid.

COURSE CANCELLATION REFUNDS

Normally prior to the first day of class, the Provost will cancel those classes having insufficient enrollment. An email message will be sent to your college email address, informing you that one of your classes has been cancelled. If the Provost deems it advisable to wait until the first day of class to make the determination, the class will be met by a department representative, the students informed of the cancellation and given an opportunity to immediately change their schedules.

Those fees which are normally non-refundable will be refunded if the cancellation completely withdraws the student from all courses for the term.

BOOKSTORE REFUNDS

Textbook purchases will be fully refunded within 10 working days from the start of classes. For courses offered for a weekend and/or one week, you will have only until
the first day of class to return for a full refund. For any purchases made after the first 10 days, the student will have only 48 hours to return for a full refund. New textbooks are fully refundable only when returned in the same condition as purchased. No book purchased during the week of mid-terms or finals will be refunded; however, you may sell them back at the end of the term during the book buy-back period.

If your course has been cancelled, bring a copy of the cancellation (e.g., a new copy of your schedule showing “CC” on the line for that course) and your receipt to the Bookstore within 48 hours of the cancellation, and you will receive a full refund. New books must be in their new condition; if a shrink-wrapped book’s wrapper has been broken, the refund amount will be discounted by a stocking fee.

Non-text merchandise is fully refundable within 7 days of receipt. Merchandise must be in original salable condition. No refund is given on magazines or newspapers.

*Note:* You must retain your receipt to process a return. If you have paid by check and wish a refund, you may have a 3-day waiting period before refunds are made.

**GRADUATION FEE REFUNDS**

If, after submitting your Graduation Application, you should decide not to graduate as scheduled or if you fail to meet the requirements for graduation, you will receive no refund.

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**Financial Aid**

The Office of Financial Assistance at Northern New Mexico College is committed to increasing the opportunities for students to access and reach success in higher education by helping students and their parents to overcome financial barriers. To fulfill this goal, Northern’s Office of Financial Aid administers a broad spectrum of grants, scholarships, student employment, and student loan programs to help meet the financial needs of our students. Through financial literacy and guidance, we support students in making a successful transition into higher education and work to retain them by providing on-going assistance to our continuing students.

Financial Aid is considered monetary supplemental assistance to help students afford their educational costs and should never be viewed as the limiting factor to obtain a degree. The principle and primary responsibility to finance a college education though, belongs to the student. Therefore, it is important to recognize that whether you are a dependent student relying on financial support from your parents or are an independent student, you must be prepared to make some financial sacrifice to pay for the investment of earning your college degree.

The Office of Financial Aid is located at the Española Campus in the Montoya Administration Building and is open Monday through Friday, 8 am to 5 pm. If you have questions please feel free to stop by the office or give us a call at (505) 747-2128. For the most updated information concerning financial aid, we encourage you to visit our web site at www.nnmc.edu.

**APPLYING FOR FINANCIAL AID**

To apply for any type of financial aid, students must complete the Free Application for Federal Student Aid (FAFSA). Some types of financial aid are limited, therefore,
completing the FAFSA by the April 30th priority processing date and following through with all requirements will increase your ability to be awarded and receive the maximum amount of financial aid you may be eligible for.

Students may seek assistance with the FAFSA application by contacting the Educational Opportunity Center (EOC) at (505) 747-2200. The EOC is a federally funded program whose main office is on the Espanola campus. EOC also staffs offices in Taos, Santa Fe, Bernalillo and Las Vegas. Utilizing the free services provided by the EOC can significantly decrease the burden of completing the financial aid process on your own.

**GENERAL ELIGIBILITY REQUIREMENTS**

*To receive financial aid you must demonstrate the following:*

1. Meet United States citizenship requirements for federal aid; non citizens must meet state requirements for certain state aid; and
2. Make satisfactory academic progress toward the completion of your program of study (refer to Satisfactory Academic Progress (SAP) Requirement later in this section); and
3. Not be in default on a Federal Perkins Loan, a Federal Stafford Loan, or Federal Direct Student Loan; and
4. Not owe a refund/overpayment on a Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Student Loans; and
5. Have been accepted and enrolled in an eligible program of study.

*Please note:* Federal financial aid pays for all courses except PD ENG 121N and PD Math 108N.

**SATISFACTORY ACADEMIC PROGRESS (SAP)**

The standards listed below are used to determine eligibility for participation in financial aid programs at Northern New Mexico College (NNMC). Though this policy establishes the minimum standards for financial aid programs at NNMC, an individual aid program may have unique qualitative and/or quantitative standards as mandated by law or the program’s governing entity (e.g., Legislative 3% Scholarship and the Legislative Lottery Scholarship.)

**MINIMUM STANDARDS OF SATISFACTORY ACADEMIC PROGRESS (SAP)**

You must be meeting at least the minimum standards for SAP by the end of any given enrollment period at NNMC to maintain financial aid eligibility:

1. **Cumulative Grade Point Average (GPA)**
   Students must meet the minimum of a 2.0 cumulative GPA.

2. **PACE of Progression (Completion Rate)**
   A student’s academic progress will be measured by comparing the number of attempted credit hours with the credit hours earned (i.e., received a grade of A, B, C, D, or CR). This includes any course for which the student has remained enrolled past the add/drop period. A student must earn **70 percent** of credits attempted to maintain satisfactory academic progress.
3. Maximum Time Frame for Degree/Certificate Completion

Financial aid eligibility is limited to 150% of the published length of the program.

Examples:

- *Associate in Early Childhood Education* Program requires 65 credit hours
  
  \[65 \text{ credit hours} \times 150\% = 98 \text{ credit hours maximum}\]

- *Bachelor’s in Education* requires 132 credit hours
  
  \[132 \text{ credit hours} \times 150\% = 198 \text{ credit hours maximum}\]

4. The following are considered when evaluating a student’s satisfactory academic progress:

- **Withdrawal, incompletes, and failures:** are considered attempted but not earned hours.

- **Repeated courses:** A student is allowed to repeat a course once if previously passed. A student is allowed to repeat a course twice if previously failed. Repeated courses are included in the calculation of both attempted and earned hours.

- **Audited courses:** Are not included for financial aid purposes.

- **Remedial courses:** Up to 30 hours of remedial courses are not included in the calculation of both attempted and earned hours, and passing grades (CR) are calculated as a 2.5 grade point average for financial aid purposes.

- **Transfer credits:** With the exception of remedial courses, all transfer hours are included in the maximum time frame calculation (even if you received no federal student aid for those courses). Transfer credits however, are not included in the calculation of GPA.

5. Changing a Program of Study and/or Pursuing Additional Degree

Students are allowed to change majors, but may not exceed the maximum time frame as noted in item 3 above.

6. Semester Satisfactory Academic Progress Review

Those students not meeting the minimum Satisfactory Academic Progress standards at the end of any given enrollment period will be placed on either of the following statuses:

- **Warning:** status assigned to a student who fails to make SAP. You may continue to receive financial aid for one payment period/semester. No appeal is necessary for this status. To be removed from financial aid warning status you must attain the required minimum 2.0 cumulative GPA and/or 70% credit completion ratio standard/s by the end of the warning semester. A student will be placed in suspension status and lose financial aid eligibility if they fail to attain the required SAP standards by the end of the warning semester.

- **Suspension:** if you do not attain the required cumulative GPA and/or credit completion ratio by the end the term that you have been assigned to the Warning status, or if you are within 36 credits of reaching the 150% maximum timeframe to complete your program or have exceeded the timeframe, you will be placed on financial aid suspension status and will be notified of the change in eligibility. While on suspension status you are not eligible to receive financial aid. (The exceptions are external scholarships). Appeal of suspension status is explained below.

7. Appeal Procedure

To regain eligibility after being placed on suspension status a student must submit an Appeal/Academic Plan using the Financial Aid Appeal form. Attach a typed and signed letter to the Financial Aid Appeal form documenting clearly the extenuating
circumstances that hindered you from meeting SAP along with proper documentation noted below. *Extenuating circumstances that interfered with your ability to meet SAP standards might include but are not limited to:*

- **Illness, accident, or injury** experienced by you or a significant person in your life. Documentation required: physician’s statement, police report, or other documentation from a third party professional; hospital billing statement.
- **Death of a family member** or significant person in your life. Documentation required: a copy of the obituary or death certificate.
- **Divorce experienced by you or parent.** Documentation required: attorney’s letter on law firm’s letterhead or copy of divorce decree.
- **Reinstatement after an academic dismissal** or extended break in your enrollment. Documentation required: advisor’s written statement.
- **Personal problems or issues** with your spouse, family, roommate, or other significant person. Documentation required: written statement from medical doctor, counselor, attorney, or other professional advisor.
- **Successfully following an academic plan during, yet remaining below the overall 70% completion ratio** or minimum 2.0 GPA requirement.

The Financial Aid Director will review the Appeal/Academic plan and make one of two decisions:

- **Denied:** If the appeal is denied, the student will not be eligible to receive financial aid at NNMC. The student will be responsible for any charges incurred by enrolling in courses. If the appeal is denied, then generally, financial aid suspension status remains until the student completes courses and attains the SAP standards.
- **Approved Appeal:** If the appeal/academic plan is approved, the student’s financial aid eligibility will be reinstated with the requirement for the student to follow the approved academic plan. While on an approved academic plan the student must successfully complete all courses listed on the plan or be subject to lose eligibility and be placed back on suspension status. The successful completion of the academic plan is monitored by the financial aid office at the end of each term of enrollment. The intention of the academic plan is to help a student meet the GPA and/or Pace requirement or to insure that the student will complete the intended degree within the 150% max time frame allowed.

8. Satisfactory Academic Progress for Student Loans

Students MUST meet the minimum SAP requirements to apply for and/or to continue receiving both Federal Direct Subsidized/Unsubsidized Loans and Federal Perkins Loan. This is non-appealable.

9. All Decisions by The Financial Aid Director are considered final and non-appealable.

ENROLLMENT REQUIREMENTS FOR FINANCIAL AID

To receive financial aid, students must generally enroll at least half-time as regular students in an eligible program. Most scholarships typically require full-time enrollment. Award amounts are generally prorated according to enrollment status (i.e., full-time, ¾ time and half-time). Audited classes are not included toward financial aid enrollment requirements. Grant payments are locked after the third week of the fall and spring semester. If a student increases his/her enrollment after the third week, the grant funding does not increase.
FINANCIAL AID DISBURSEMENTS

If all requirements are met before the start of the semester your financial aid funds will be memoed to your student account prior to the start of the term. If authorized, the memo can be used to pay for tuition, fees, and other non-institutional charges. Books and supplies can be purchased with memoed financial aid funds one week prior to the start of classes. If there is an excess of financial aid funds remaining after tuition, fees and books have been paid, then the remaining balance will be refunded to you by direct deposit into the bank account that you have previously authorized for this purpose. The Business Office will notify students regarding the specific refund disbursement dates for the semester but typically, refunds occur four weeks after the start of classes. Disbursement for grants and scholarships will not be issued for late starting classes until approximately a week after the first date of attendance. Single semester loans will be issued in two disbursements, the second being after midterms.

WITHDRAWAL FROM COURSES AND THE RETURN OF TITLE IV FUNDS

If a student withdraws from all courses within a term, the school is required to determine whether the student earned the federal aid disbursed by using a federally prescribed formula. This process is referred to as a Return of Title IV Funds calculation. If there is unearned aid the school and/or the student may be required to return a portion of the federal aid to the appropriate federal program. If the school is required to return funds, the amount of the return will be charged to the student’s account and the student must repay the amount returned. An unpaid balance will result in a hold being placed on the student’s account that will prevent the student from registering and obtaining official transcripts until the balance is paid in full. To find out more information see Return of Title IV on the Financial Aid web page at www.nnmc.edu.

Typical Sources of Financial Aid

Northern participates in the following federal and state programs. Unless otherwise indicated, students must meet ALL General Eligibility Requirements as mentioned above. For the most up to date list of available aid programs please visit the financial aid web page at www.nnmc.edu.

Northern’s Bridge Scholarship: This one-time, tuition-only scholarship is offered to current year high school graduates or GED recipients and is applied to the cost of the first semester of attendance. The award is dependent upon available funds and ranges from $700 to full-tuition cost. To be eligible a recipient MUST be a NM resident who graduated from a NM accredited public or private school with a graduating grade point average of a 2.0 or better and register for a minimum of 15 credits. A completed FAFSA form is required.

New Mexico Legislative Lottery Scholarship: This is a tuition-only scholarship. A recipient MUST be a NM resident who is a current-year graduate from a NM accredited public or private high school or a GED recipient who has successfully completed his/her first regular semester at Northern with 15 or more credit hours and a minimum grade point average of 2.5 or better. A student can receive this scholarship for up to 7 semesters if declared under a bachelor’s degree program and 3 semesters if declared under an associate degree. A FAFSA form is not required; however, we encourage
students to complete the form to ensure eligibility for other financial aid programs.

**Federal Pell Grant:** Intended to be the “floor” of your financial aid package and is usually combined with other forms of student financial aid to meet your financial need. The maximum amount for the 14-15 aid year is $5,730.

**Federal Supplemental Educational Opportunity Grant (FSEOG):** Available if you have exceptional financial need. Priority is given to students who receive a Federal Pell Grant. An FSEOG does not have to be repaid. Amounts range from $400 to $4000 and are based on need.

**Federal TEACH Grant (TEACH):** The Teacher Education Assistance for College and Higher Education (TEACH) Grant Program provides a grant of up to $4,000 per year to students who intend to teach in a public or private elementary or secondary school that serves students from low-income families. *Important:* If you do not complete your service obligation, all TEACH Grant funds you received will be converted to a Direct Unsubsidized Loan. Contact the Financial Aid Office to learn more about the TEACH Grant Program.

**New Mexico Student Incentive Grant (NMSIG):** Combines federal and state funds to provide aid for New Mexico undergraduate students with substantial financial need. Award amount ranges from $200 - $1,200.

**Federal College Work Study Program (FWS):** Provides employment to students who demonstrate financial need, allowing you to earn money to help pay your educational expenses. When awarded, you can work on-campus or at selected off-campus employment sites.

**New Mexico Work Study Program (SWS):** Provides employment opportunities to qualified students. Although the program parallels the Federal College Work Study Program, an eligible student may not necessarily have an unmet need to participate. To be eligible, you must be a New Mexico resident.

**FEDERAL LOAN PROGRAMS**

*Northern participates in the following Federal Loan programs:*

- **The William D. Ford Federal Direct Loan** (subsidized and unsubsidized) and the **Federal Perkins Loan.** These loans are available to eligible students to help pay for educational expenses that are not covered by other financial aid. To qualify, students must complete a FAFSA and be enrolled in at least six credit hours. All funds received must be used for educational expenses.

- **New Mexico Teaching and Health Professions: Student Loan–for–Service Programs.** These loans provide New Mexico residents with loans to complete nursing and education (teaching) programs. These loans are repaid through service in a designated area that is under-served by licensed registered nurses and teachers. To be eligible, the recipient must demonstrate financial need and be enrolled in six or more credit hours per semester. Information is available on [www.hed.state.nm.us](http://www.hed.state.nm.us) or at Northern’s Office of Financial Aid.

**SCHOLARSHIPS**

There are numerous scholarships offered to students attending Northern. For a complete updated list of all scholarships available, and their eligibility criteria, go to the Financial Aid web page at [www.nnmc.edu](http://www.nnmc.edu), or visit Northern’s Office of Financial Assistance on the Española campus.
Northern Foundation Scholarships: The Northern New Mexico College Foundation is a non-profit 501(c) (3) corporation created to award scholarships to qualified and deserving students. Since 1996, over 1000 students have received scholarships ranging from $500 to $5,000. The application and guidelines are posted on the College website February 1 of each year. Students can also inquire at the Foundation office located in the Joseph P. Montoya Administration building, AD Room 133 or visit the Foundation online at www.nnmc.edu

Tribal Scholarships: If you are a Native American tribal member with financial need, you may be eligible for a tribal scholarship. We encourage you to contact your Tribal Scholarship Agency for specific requirements.

New Mexico Vietnam Veterans: Administered by the New Mexico Commission on Higher Education for Vietnam veterans who were residents of New Mexico at the time of original entry into the armed forces and who were awarded the Vietnam Campaign Medal. To apply for this scholarship, contact the New Mexico Veterans Service Commission in Santa Fe at 505.827.6300.

Veterans’ Educational Benefits (The GI Bills): Most programs at Northern are approved by the Veterans’ Service Commission (Veterans’ Approval Office) for the education of veterans, war orphans, and other eligible persons. If you are eligible under one of the many current laws, contact the Veterans Representative who is responsible for certifying to the VA, the enrollment of eligible persons. They can be contacted at 505.747.2151.

Student Services Information

ACCESSIBILITY RESOURCES

If you have any type of disability, you may avail yourself of the educational and personal support provided in this area. If you have questions about the availability of facilities for people with disabilities, or for any type of assistance, contact our Accessibility Services department at 505.747.2152.

OFFICE OF VETERANS’ AFFAIRS

This office serves the advisement and certification needs for students and their dependents eligible for veterans’ educational benefits under any of the various G.I. Bills. For assistance, contact 505.747.2151.

NEW MEXICO EDUCATIONAL OPPORTUNITY CENTER (EOC)

This is a federally-funded TRIO program, authorized by Public Law 94-482, which provides services to ten north central New Mexico counties to people who are low income, adults (19 and over), and first-generation students. Its primary function is to recruit for any and all New Mexico colleges and to assist applicants with admissions, financial aid processes, job outlook, career orientation, and academic advisement.

The Educational Opportunity Center’s main office is located on the Española campus with satellite offices in Bernalillo, Santa Fe, Taos, and Las Vegas, New Mexico. EOC staff work with Northern New Mexico College in providing quality service to our students. For assistance, call 505.747.2200.
COLLEGE ASSISTANCE MIGRANT PROGRAM

The CAMP program is a federally-funded program that provides academic support services, and financial resources for migrant/seasonal farmworkers throughout their first year of college. CAMP provides tuition assistance, book stipends, tutoring services, academic advisement, and monthly stipends to eligible full-time students for their first year of college at Northern. The program serves 35 students annually. For information, contact the CAMP office at 505.747.2200.

EL PUENTE—SUMMER BRIDGE PROGRAM

This intensive Accelerated Learning Academy supports students who are required to take developmental courses in math and English composition. El Puente increases students’ college readiness and provides a “bridge” to freshman-level math and English courses while assisting in the transition from high school to college, providing an extended orientation and offering various co-curricular projects and activities. El Puente is free to eligible students accepted into the program (pending available funds).

EXITO! COUNSELING OFFICE

The EXITO! Title V counseling office is a member of the American College Counseling Association (since 2012), and currently offers year round unlimited mental health counseling sessions; four groups of support for different populations (women, men, GLBQT, and AA groups); referrals to outside counseling services; and assistance with campus health prevention efforts for mental illness, addiction, and suicide issues in our communities; the counselor is available to speak in classrooms on a variety of such subjects.

The office is located in Montoya Administration Bldg., 241-C, and more information is available at www.nnmc.edu, under Current Students, at the Student Health link. The phone number is 505.747.2256, and the office is open Monday—Thursday, from 9 a.m.-5 p.m., with later or earlier appointments available, as needed.

FIRST YEAR EXPERIENCE PROGRAM

This learner-centered program offers Learning Communities, Linked Courses, intensive academic advisement, and a specially designed FYE 101 class, First Year Experience (a General Education requirement). We believe these opportunities increase academic success, encourage social networking, and enhance the overall college experience in the early years at Northern.

MATH CENTER

Do you need to improve your math skills? The Math Center, located in the Student Success Center, offers assistance through individual tutoring, study groups, and math tutorial software. To schedule an appointment or to get more information, call the Math Center at 505.747.2276.

WRITING CENTER

Do you need to improve your writing skills? If you feel challenged by the writing process, from brainstorming and organization to drafting and revising, the tutors at Northern’s Writing Center are available by appointment for one-on-one sessions
throughout the week. Appointments are generally for half-hour working periods, concentrating on a single aspect of your personal writing process.

The Writing Center is located in AD 129. For an appointment, hours of operation, or further information, call the Writing Center at 505.747.2294.

TUTORIAL PROGRAM

As a student at Northern, you are eligible for free tutoring in several academic subjects. Both professional and peer tutors are used on either a one-to-one or small group basis to help you master course material or to overcome difficulties in understanding texts, preparing for exams, or developing good study habits. To take advantage of this service, contact Brenda Martinez in the Student Success Center at 505.747.2199.

PERSONAL AND CAREER DEVELOPMENT

You may find interesting and helpful courses among our offerings, such as “Becoming a Master Student.” These courses help you develop basic skills you can use to enhance your educational and career outlook. For more detailed information, contact our Student Advisement Center, 505.747.2150, or the Student Success Center, 505.747.2199.

STUDENT ACTIVITIES

All students are encouraged to become aware of and involved in co-curricular activities. Because the student population at Northern is so diverse, activities are set up to serve as many students as possible.

Student activities are coordinated by the Student Senate and the Student Activities department. Activities range from social to athletic and cultural events. Opportunities exist for becoming a member of the Student Senate or for joining such varied clubs as the literary club, engineering club, etc., or for joining our honor society, Alpha Iota Sigma (a chapter of Phi Theta Kappa, the international honor society for two-year colleges).

STUDENT SENATE

The Student Senate is comprised of the elected officers of the Associated Students of Northern New Mexico College, which is the chartered organization representing students and their interests.

You may obtain more detailed information about the Student Senate and college clubs by contacting the Coordinator of Student Activities, Ms. Brooke Espinosa 505.747.2254, or by reviewing the information contained in the Student Handbook. For information about Phi Theta Kappa, contact Dr. Brenda Linnell at 505.747.2248.

STUDENT PHOTO ID

Each credit-student will be issued an unrestricted photo ID immediately upon payment of the term’s full tuition and fees or upon having signed up for Northern’s Payment Plan. The card will verify those cases for which inter-campus transportation and/or meal plans have been paid. Validation will take place at registration during each subsequent term. You are required to present your current student ID when requesting service from any Northern department.

Students who are officially enrolled in the Adult Basic Education or High School Equivalency Programs will be issued a photo ID, without charge, restricted only in
terms of specific beginning and ending dates of their program (as established by the programs, but not to exceed the normal ending date of a term).

Photo IDs will be issued to those enrolled in Continuing Education/Community Service courses which have a minimum length of seven weeks. Beginning and ending dates of the courses will be put onto the cards. Students may use gymnasium facilities only if their validated photo ID is in their possession at all times while in the gymnasium.

INSURANCE

Information about available insurance programs and claims is available through the Coordinator of Student Activities at 505.747.2287.

If you are an international student who will be attending under a student visa, you are required to obtain health and accident insurance.

In addition, students in some specific programs and/or courses must obtain specific types of insurance before enrolling. For further information, check with the Department Chairperson responsible for your particular major, such as Massage Therapy, Nursing, Cosmetology, etc.

Auxiliary Services

FOOD SERVICES

Northern provides food service at its Española campus.

BOOKSTORE SERVICES

The College Bookstore on the Española campus is a full-service bookstore. Students should familiarize themselves with Bookstore hours and policies posted on Northern’s website at www.nnmc.edu.

The Bookstore policy allows book buy-backs during finals week at the end of the Spring and Fall semesters. No receipt is necessary.

Textbook purchases are fully refundable within 10 days of the start of classes, or within 2 days of purchase thereafter. You must present a receipt for this service.

LIBRARY SERVICES

The main library facility is at Northern’s Española campus; materials appropriate to El Rito programs are housed in the library facility on the El Rito campus. A Northern ID card is required to borrow materials but the facilities are open to students, faculty, staff, and the community for quiet study, research, viewing of audiovisual materials, and computer usage. Only five books in one subject area may be checked out at one time.

Electronic books as well as subscription library databases consisting of full text journal articles in various disciplines are made available on campus and remotely twenty-four hours daily, seven days a week; however, Northern ID numbers are required to gain access to them from remote sites. All of these options are available through the Northern Library website, including the library book catalog. Those com-
Community members who are not enrolled as students must pay an annual library-use fee to have borrowing privileges.

The Library provides orientation sessions for class groups and/or individualized instruction on the use of library database utilization. In addition, the library provides a copy machine, computers for library database access as well as Internet access and Microsoft Office products, group study rooms, coffee shop, WiFi, an audiovisual viewing and listening space, Interlibrary loan and reciprocal borrowing privileges. For more detailed information, look on Northern’s website under “Library” or call 505.747.2243.

PARKING

In general, the only reserved parking is for those who are handicapped and whose automobile shows a valid handicapped placard. Unless you have a physical disability and possess the required placard, do not park in spaces reserved specifically for the physically disabled; your vehicle will be ticketed or towed. The fine for violating handicapped parking is expensive.

ON–CAMPUS SPEED LIMITS

On-campus driving is restricted to a maximum of 10 mph, or less, depending on the traffic flow. You are expected to obey all traffic signs and give the right of way to anyone not in an automobile who is traveling between buildings and/or parking lots.

CHILDREN ON CAMPUS

You may not bring your children to your classroom or to the Eagle Memorial Sports Complex unless the child is attending a children’s class offered by the College. Children are not to be left unattended on campus.

Other Services

In addition to the services already listed, a number of others are provided by varied programs at Northern: Adult Basic Education (ABE), High School Equivalency Program (HEP), General Education Development (GED) testing, and Continuing Education and Community Services (CE/CS).

ADULT BASIC EDUCATION (ABE)

This program provides instruction throughout northern New Mexico in the area of GED test preparation, pre-GED, English and math basic skills brush-up, Integrated Life Skills, literacy improvement, English for speakers of other languages (ESOL), and U.S. citizenship preparation. For information, call 505.747.2195 or 505.747.2198.

HIGH SCHOOL EQUIVALENCY PROGRAM (HEP)

The Northern New Mexico College High School Equivalency Program (HEP) is a Federal Program funded by the Office of Migrant Education, a department of the United Stated Department of Education.

The mission of Northern’s HEP is to provide academic instruction, support services, and financial resources for migrant/seasonal farmworkers pursuing a high school
equivalency diploma. Students must be at least 16 years of age. For information, contact the HEP office at the Española campus at 505.747.2144 or 505.747.5441.

Note: Students enrolled in either the ABE or HEP programs are not eligible for admission to the college until they have earned their GED.

GED TESTING

Northern New Mexico College is the designated testing center for Rio Arriba County. For further information, contact the Student Success Center at the Española campus at 505.747.2164.

CONTINUING EDUCATION AND COMMUNITY SERVICES (CE/CS)

This is the non-credit division of the College which provides communities in our service area with special interest courses using conference, workshop, and seminar formats.

Business, professional, or community groups interested in meeting to discuss topics of special interest at either the Española or the El Rito campus may contact the Office of Continuing Education/Community Services at 505.747.2119 or 505.747.5447.

Emphasizing its community service component, the Office of Continuing Education and Community Services actively seeks to identify educational needs of the community and to serve those needs by using existing resources and through cooperative efforts with other educational institutions and service agencies.

STUDENT RECORDS AND FERPA

The Office of the Registrar is responsible for the maintenance of your educational records at Northern New Mexico College. Such records include but are not limited to student transcripts, academic folders and faculty grade reports. Annual notice concerning our policy is made available in each semester's published Schedule of Classes, in the Student Handbook, and in each catalog.

The following information provides policies and procedures as they pertain to educational records:

Access to and Confidentiality of Student Records. The confidentiality of educational records is governed by a federal law, the Family Educational Rights and Privacy Act, 34 CFR (hereafter referred to as FERPA). Under that law, you have certain rights with regard to the inspection, access, and correction of inaccuracies in your records. Under certain circumstances, parents or guardians of students may also enjoy such privilege. Under the provision of this Act, the following policies apply:

1. If you are currently enrolled or have previously attended Northern, you may inspect your educational records by obtaining an appointment to review your records with the Registrar. At the time of the review you will be asked to produce a photo ID to validate your identity. “Educational records” consist of any record (regardless of the medium in which it exists) which is maintained by the College and which is directly related to you, the student, with the exception of the following types of records:

   a. Personal records kept by a faculty or staff member which have never been revealed or made available to another person unless to the maker’s temporary substitute.
b. Employment records of an individual whose employment is not contingent on the fact that he is a student, provided that the record is used only in relation to the individual's employment. Transcripts submitted for the purposes of employment are not part of your educational record.

c. Records maintained by a college security unit if the record is maintained solely for law enforcement purposes, is revealed only to law enforcement agencies of the same jurisdiction, and the unit does not have access to education records maintained by the college.

d. Alumni records which contain information about you after you are no longer in attendance at the College and the records do not relate to you as a student.

2. You may challenge (in writing) inaccuracies or misleading items; however, you may not challenge the fairness of a grade nor may you challenge the information in any transcript which did not originate at Northern. In support of a written challenge, you may request and obtain a photocopy (at nominal charge) of any item under dispute. Direct any challenges, in writing, to the attention of the Registrar.

3. Your records will not be released without your written consent, except to college officials with a legitimate educational interest.

   a. A college official is one who is employed by Northern in an administrative, supervisory, or support staff position (academic or research); is a member of the Board of Regents; or is employed by or is under contract to the College to perform a special task, such as, perhaps, an attorney or auditor.

   b. An educational interest is legitimate if the official is performing a task that is specified in his job description or by a contract agreement; performing a task related to a student’s education; performing a task related to the discipline of a student; or providing a service or benefit relating to the college, the student, or the student’s family, such as job placement or financial aid. Included under the area of legitimate interest would be the National Student Clearinghouse.

4. Exceptions to the requirement that you provide written authorization include:

   a. Access, upon request, to officials of another school in which you seek or intend to enroll. In this case, we will make a reasonable attempt to notify you of the transfer of information.

   b. Access to certain officials of the U.S. Department of Education, the Office of Veterans Affairs, the Bureau of Homeland Security, and state and local educational authorities in connection with certain state or federally supported education programs.

   c. Access to law enforcement agents pursuant to Section 507 of the USA Patriot Act. Upon such access you will be notified as required by NM House Memorial 2, Laws of 2003.

   d. Access in connection with your request for or receipt of financial aid, as necessary to determine eligibility, amount, or conditions of the financial aid, or to enforce the terms and conditions of the aid.

   e. Access to organizations conducting certain studies for or on behalf of the College.

   f. Access to accrediting organizations to carry out their functions.

   g. Access to parents/guardians who show proof that you were claimed as a dependent for income tax purposes in the previous tax year.

   h. Access to comply with a judicial order or a lawfully issued subpoena, although
the college has an obligation to make a reasonable attempt to give you prior notice before complying with the subpoena. An exception to the “reasonable attempt” exists when the subpoena is issued for a federal grand jury or for law enforcement purposes.

i. Access to appropriate parties in a health or safety emergency.

**Directory Information.** Directory information may be released without your written consent unless you have requested in writing that directory information be withheld. You may specify that individual portions of the directory information or the entire listing be restricted without your written consent. A form to implement such a restriction may be obtained on-line or from the Office of Admissions and Records. If no restriction is received by the Registrar, your information will be classified as directory information until such a restriction is placed. *Directory information that may be released includes:*

- Name
- mailing address
- major field of study
- classification
- enrollment status (full- or part-time)
- dates of attendance
- participation in officially recognized activities and sports (including weight, height, or photograph of athletic team members)
- honors and degrees awarded
- and the name of the education agency or college attended immediately prior to attending Northern.

In addition to the release of information permitted under FERPA guidelines, the National Defense Authorization Act of 1995, the National Defense Authorization Act for 1996, and the Omnibus Consolidated Appropriations Act for 1997 allow the Department of Defense (under special authority granted under what is called the Solomon Amendment) to request the following information about you under its own special definition of “directory information.”

This exception has been created in order to permit the Secretary of Defense access to the following particular information for recruitment purposes: Your name, address, telephone listing, date of birth, level of education, academic major, degrees received, and the name of the educational institution in which you had been most recently enrolled (prior to enrollment at Northern). The only students excluded under this definition are those who are under the age of seventeen and those seventeen or older who have signed a written request denying access to their records by a third party. Also excluded are those above the age of forty-two.

5. When a transcript is released, the recipient is notified by Northern that the record may not be released to any other person.WHERE DOES THIS BELONG?

Details concerning your rights and privileges under the Family Educational Rights and Privacy Act are available in the Registrar’s Office at the Española Campus.

Restriction of Access. You may request this restriction only during a term in which you are then enrolled. If you have applied a restriction to your records, it will continue in effect after you graduate and/or otherwise leave the college.

A brief version of FERPA (FERPA for Dummies) may be found at www.nnnmc.edu by clicking on Students or the Office of the Registrar.

TRANSCRIPTS

Obtaining a Northern transcript or having a transcript sent on your behalf:

In order to obtain an official transcript for yourself or to have one sent to a person, agency, or school, you must submit a written request to the Office of the Registrar. You may pick up a form at the Registrar’s, write/fax a letter to 505.747.5449, or request a transcript by e-mail. If you have questions, please call 505.747.2138. A copy of the request form can be found on Northern’s website at Office of the Registrar link under Students.

Each transcript will be issued at $5.00 per official copy and $2.00 per unofficial copy. However, no transcripts will be issued unless all institutional obligations are paid (including loans issued through the instrumentality of Northern).

You may also request that your transcript be sent via a secure email system (eScrip) directly to whomever you provide an email address for. Be sure to verify that the receiving party is willing to accept an electronic transcript before deciding to have us send one by that method.

Students can now log into their Banner account to order official transcripts online in Transcripts on Demand. This automated system gives students the freedom to request transcripts online 24/7, from anywhere. Transcripts can be delivered to academic institutions, prospective employers, and other recipients through this integrated eScrip-Safe electronic transcript delivery network.

You can obtain an unofficial copy of your transcript by visiting our website, clicking on myNNMC, and following the appropriate links.

TRANSCRIPTS FROM OTHER INSTITUTIONS

Transcripts from other institutions which you have had sent to Northern for purposes of establishing admission eligibility for regular status do not belong to you and will not be returned to you. Do not expect that these transcripts will forever remain a physical part of your official educational record. Once their purpose has been served, they may legally be destroyed in accordance with state policies dealing with records retention. In unusual circumstances, we may make a photocopy of another institution’s transcript, but it will be reduced in size, so it cannot be modified.

CHANGE OF NAME

If you wish to process a change of name for your academic record, you must bring appropriate documentation (at least two types of identification showing the new name) to the Office of Admissions. Examples of such documentation include a marriage certificate, birth certificate, or court order for legal name change. A name change will be processed only if you are a currently enrolled student. Diplomas will be issued only for the official name under which your admission is granted or as officially amended. In addition, name changes are not made for alumni.
Standards of Conduct

Students at Northern are expected to act in a responsible manner and to abide by all College policies while on Northern’s campuses.

An individual who enrolls at Northern can rightfully expect an environment conducive to teaching and learning. This assures each student that a safe and healthy environment exists at Northern. To ensure the attainment of this goal, Northern has developed Standards of Conduct for all students. These standards identify behavior that impedes the teaching and learning process. We ask that each of you assist in assuring that Northern is a place where quality teaching and learning will occur in a friendly setting.

Northern’s Student Handbook contains detailed information concerning specific standards expected from each student, information about disciplinary sanctions which could be invoked for infractions of the standards of conduct, and the appellate process applicable to appeals of disciplinary action imposed under the code. The Student Handbook is considered an official part of this catalog even though it is published in a separate document.

PLAGIARISM

Dishonesty in connection with tests, quizzes, or coursework assignments may be cause for dismissal from the College.

Plagiarism is the most common type of academic dishonesty. Plagiarism consists of any representation of another person’s work as one’s own without proper acknowledgment. Examples include but are not limited to 1) submitting as one’s work a paper which includes a part copied from a book or article without identifying the quoted selection and/or sources, 2) presenting an author’s ideas as though they were your own original ideas, or 3) using work by another student with your name as the author.

When an instructor suspects a student of academic dishonesty, the instructor will bring it to the student’s attention. If the problem is not resolved to the instructor’s satisfaction, the incident will be reported to the department or program chairperson for follow-up action.

Substance Abuse Policy

OUR PHILOSOPHY

Northern is committed to a safe working and learning environment for its faculty, staff, students, and the general public. Because substance abuse affects people's performance, conduct, reliability, and general ability to learn and complete assigned tasks, Northern has adopted the following policy on substance abuse:

OUR POLICY

While you are on College property, you are denied the unauthorized use, manufacture, distribution, dispensation, sale, possession, or transfer of controlled substances, including the unauthorized use or possession of, or being under the influence of, alcohol or alcoholic beverages.
PENALTY FOR VIOLATION

Violation of this policy may result in such disciplinary action as dismissal and referral for investigation and/or prosecution by appropriate law enforcement agencies.

DRUG TESTING

Routine drug testing is not permitted; however, if there is reasonable suspicion that a specific individual is in violation of this policy, that person may be required to undergo testing as a condition of continued enrollment as a student. This does not preclude the College, at its discretion, from conducting random drug testing programs for students who might be participating in athletic activities conducted or sponsored by the College.

Student Right-To-Know and Campus Security Policies

In compliance with the provisions of Public Laws 101-542 and 102-26, Northern has established policies governing the availability of information concerning graduation rates and campus security.

GRADUATION RATES

Northern will produce and make readily available, upon request, to current students and to each prospective student enrolling or entering into any financial obligation with Northern, the completion/graduation rate and transfer rate of certificate or degree-seeking, full-time undergraduate students. Specific questions concerning this policy should be directed to the Director of Institutional Research at 505.747.2118.

CAMPUS SECURITY

All students, faculty, and staff are to report to the Director of Campus Security any criminal activity occurring within the campus facilities or during any college-sponsored activity. No type of criminal activity within the campus or during college activities will be tolerated.

Criminal activities include but are not limited to murder, rape, robbery, aggravated assault, burglary, motor vehicle theft, liquor law violation, drug abuse, and weapons possession. Under the terms of the law, in September of each year the College prepares, publishes, and distributes information which is available upon request to current students and employees, and to any applicant for enrollment or employment.

In addition, Section 485(f)(1) of the Higher Education Act of 1965 (20 USC 1092(f)(1) requires that the College notify the campus community how to obtain information provided by the state under the Violent Crime Control and Law Enforcement Act of 1994 (42 USC 14071(j))* concerning registered sex offenders. For our area, this information can be obtained from the New Mexico Department of Public Safety website (www.nmsexoffender.com).

Specific questions concerning this policy should be directed to the Dean of Students.

* Commonly referred to as the Megan Act.
COLLEGE of ARTS and SCIENCES

Department of Fine Arts

The mission of the Fine Arts Department is to provide you with the opportunity to enrich your life through study of the traditional fine arts (art, dance, music, theatre, film, and southwest heritage arts), and to prepare you for entry into baccalaureate and master’s programs.

Native American students attending the Pueblo of Pojoaque’s POEH Center for the Arts are eligible to have many of their courses count against program requirements in the concentration of Art or Southwest Heritage Arts, thus enabling them to earn credit and, if otherwise eligible, qualify for federal financial aid.

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

Karen Hall, EdD 747.2296  karen.hall@nnmc.edu
Interm Music Director & Chair

Marcos Cavalcante, DM 747.2293  mscavalcante@nnmc.edu
Music

Associate of Arts ART

This program is designed to maximize transfer of credit to a four-year program. In addition to a generous exposure to general education courses, you will concentrate your efforts in art.

GENERAL EDUCATION (38 CR)

Area I. Communications (9 cr)

Area II. Mathematics (3 cr)

Area III. Laboratory Sciences (8 cr)

Area IV. Social/Behavioral Sciences (6 cr)

Area V. Humanities and Fine Arts (9 cr)

    ART 105 Introduction to Art (3)
    ART 107 History of Art I (3)

Select one Area V course, not in Art, on page 28 (3)
**Area VI. First Year Experience (3 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE 101</td>
<td>First Year Experience</td>
<td>3</td>
</tr>
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</table>

**ART REQUIREMENTS PROGRAM (24 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>ART 110</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART 120</td>
<td>Painting I</td>
<td>3</td>
</tr>
<tr>
<td>ART 122</td>
<td>Design Elements in Art</td>
<td>3</td>
</tr>
<tr>
<td>ART 160</td>
<td>Pottery I</td>
<td>3</td>
</tr>
<tr>
<td>ART 170</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART 211</td>
<td>History of Art II</td>
<td>3</td>
</tr>
<tr>
<td>ART 233</td>
<td>Printmaking I</td>
<td>3</td>
</tr>
</tbody>
</table>

*Choose one course from the following:*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 208</td>
<td>History of NM Art and Architecture</td>
<td>3</td>
</tr>
<tr>
<td>ART 221</td>
<td>Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ART 232</td>
<td>Painting II</td>
<td>3</td>
</tr>
<tr>
<td>ART 235</td>
<td>Watercolor</td>
<td>3</td>
</tr>
<tr>
<td>ART 237</td>
<td>Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>ART 240</td>
<td>Portrait Painting</td>
<td>3</td>
</tr>
<tr>
<td>ART 260</td>
<td>Pottery II</td>
<td>3</td>
</tr>
<tr>
<td>ART 270</td>
<td>Photography II</td>
<td>3</td>
</tr>
<tr>
<td>FA 100</td>
<td>Introduction to Weaving</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 62**

---

**Associate of Arts**

**DANCE**

This program is designed to maximize transfer of credit to a four-year program. In addition to a generous exposure to general education courses, you will concentrate your efforts in various styles of dance.

**GENERAL EDUCATION (38CR)**

**Area I. Communications (9 cr)**

**Area II. Mathematics (3 cr)**

**Area III. Laboratory Sciences (8 cr)**

**Area IV. Social/Behavioral Sciences (6 cr)**

**Area V. Humanities and Fine Arts (9 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 240</td>
<td>Dance Appreciation</td>
<td>3</td>
</tr>
<tr>
<td>DANC 245</td>
<td>History of Dance</td>
<td>3</td>
</tr>
</tbody>
</table>

*Select one Area V course, not in Dance, on page 28 (3)*
Area VI. First Year Experience (3 cr)

FYE 101  First Year Experience (3)

PROGRAM REQUIREMENTS (24-26 CR)

DANC 126  Modern Dance (2)
DANC 149  Ballet I (2)
DANC 169  Flamenco Dance I (2)
DANC 211  Choreography (3)
DANC 212  Improvisation (2)
DANC 214  Kinesiology (3)

or

HCSI 114  Kinesiology for Massage (2)
DANC 292  Dance Repertory (1)
DANC 295  Dance Portfolio (3)
THE 120  Introduction to Theatre I (3)

Choose one of the following (2-3 cr)

DANC 110  Fitness for Dancers (2)
DANC 139  Folklorico Dance II (2)
DANC 150  Hip-Hop and Jazz I (2)
DANC 182  Salsa Dance I (2)
DANC 249  Ballet II (2)
DANC 250  Hip-Hop and Jazz II (2)
DANC 282  Salsa Dance II (2)
DANC 269  Flamenco Dance II (2)
MUS 105  Music Appreciation (3)
THE 196  Intro to Light and Sound (3)
THE 250  Stage Management (2)

TOTAL CREDITS: 62-64

Associate of Arts

FILM & DIGITAL MEDIA ARTS (FDMA)

The two-year FDMA Program is for students interested in pursuing a career in creative industries including Film, Television, Radio, Audio Production, Digital Photography, and Design. This program provides training for entry-level Film and Digital Media technical positions, and a foundation for students seeking to transfer to a four-year program.

GENERAL EDUCATION (38 CR)

Area I. Communications (9 cr)

Area II. Mathematics (3 cr)

Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6 cr)

Area V. Humanities and Fine Arts (9 cr)

FDMA 280 History of Cinema (3)

Select two Area V courses on page 28 (6), one of which is not in FDMA.

Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)

FDMA PROGRAM REQUIREMENTS (24-25 CR)

FDMA 101 Intro to Digital Video Production (4)
FDMA 111 Digital Media Production I (4)
FDMA 155 Digital Animation I: Motion Graphics (4)
FDMA 211 Digital Media Production II (4)
FDMA 295 Digital Media Portfolio (2)

Choose 8-9 credits from the following:

FDMA 102 Intro Digital Audio Documentary (4)
FDMA 110 Non-linear editing (4)
FDMA 115 Intro to Documentary Film making (4)
FDMA 120 Digital Music Production Techniques (4)
FDMA 125 Digital Audio Production (4)
FDMA 130 TV Production I (4)
FDMA 140 Digital Imaging I: Adobe Photoshop® (4)
FDMA 175 Web Design I (4)
FDMA 201 Advanced Digital Video Production (4)
FDMA 230 TV Production II (4)
FDMA 240 Digital Imaging II: Adobe Indesign® (4)
FDMA 255 Digital Animation II (4)
FDMA 275 Web Design II (4)
FDMA 290 Multimedia (4)
FDMA 296 Digital Media Production Internship (6)
FTT 103 Film Crew I (9)
FTT 104 Film Crew II (9)
FTT 105 Film Crew III (6)
ART 110 Drawing I (3)
ART 120 Painting I (3)
ART 122 Design Elements in Art (3)
ART 170 Photography I (3)
THE 122 Acting I (3)
THE 124 Acting for the Camera (3)
THE 132 Stagecraft (3)
THE 196 Light and Sound (3)

TOTAL CREDITS: 62-63
Certificate
FILM TECHNICIAN

This program prepares you for entry-level jobs in the craft and skills portion of the film industry. You will study film set etiquette, terminology, film history, basic equipment handling, and OSHA safety rules to enable you to work on a movie set.

GENERAL EDUCATION (6-9 CR)

Communications (3-4 cr)
ENG 108N Basic Composition I (4) or a higher level course

Mathematics (3-5 cr)
MATH 100NL Fundamentals of Math (5) or a higher level course

PROGRAM REQUIREMENTS (24 CR)

FTT 103 Film Crew I (9)
FTT 104 Film Crew II (9)
FTT 105 Film Crew III–Internship (6)

TOTAL CREDITS: 30-33

Bachelor of
MUSIC

This program is designed for those interested in a general liberal arts education with an emphasis in music.

Acceptance into the program: Although students may enroll in any music course for which they qualify, an application to the program and acceptance into the major after a formal performance audition is required before being considered as a degree-seeking music major. Such applicants must demonstrate a cumulative GPA of at least a 2.50; continued participation requires maintaining a minimum 2.00 GPA, with no grade less than a C. Interested students should contact the Music Program Director at 505.747.2296 for information, advisement, and an application packet.

Students enrolled in applied lessons will take a performance evaluation (PE), and perform in all group recitals every semester, which will determine a portion of their grade for lessons. Students enrolled in the fourth semester of applied lessons will take a 20-minute performance assessment on their applied instrument. Junior and Senior students will be required to perform a recital. At least 2 weeks before giving all required recitals, students are required to receive a passing recommendation on a recital preview performance evaluation with at least two faculty members in attendance.

All students enrolled in applied lessons are also required to concurrently enroll in group recital. Passage of a lower division exam covering music theory and aural skills, and an upper division performance evaluation, are required before admittance into the upper division. Transfer credits are awarded at the discretion of the Director. An examination may be required for all transfer credits. Concentrations in a specific
instrument or performance area will be accomplished through lessons and ensembles on that instrument.

**Ensembles:** Specific performance group requirements are controlled by the degree plan in each concentration area and are subject to the music advisor's judgment in the best interest of that student. All students enrolled in applied lessons must participate in an ensemble appropriate to and required by their degree program.

**GENERAL EDUCATION (38 CRS)**

**Area I. Communications (9 cr)**

**Area II. Mathematics (3 cr)**

**Area III. Laboratory Sciences (8 cr)**

**Area IV. Social/Behavioral Sciences (6-9 cr)**

**Area V. Humanities and Fine Arts (6-9 cr)**

Second Language (3)

**Area VI. First Year Experience (3 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE 101</td>
<td>First Year Experience</td>
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</table>

**LOWER DIVISION REQUIREMENTS (33-35 CR)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>MUS 100</td>
<td>Aural Skills I (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 106</td>
<td>Aural Skills II (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 200</td>
<td>Aural Skills III (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 206</td>
<td>Aural Skills IV (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 131</td>
<td>Introduction to Music (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 150</td>
<td>Music Theory I (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 151</td>
<td>Music Theory II (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 224</td>
<td>Music Theory III (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 225</td>
<td>Music Theory IV (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 104</td>
<td>Ensemble I (1)* (one per semester, 4 cr total)</td>
<td></td>
</tr>
<tr>
<td>MUS 120</td>
<td>Ensemble II (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 243</td>
<td>Ensemble III (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 244</td>
<td>Ensemble IV (1)</td>
<td></td>
</tr>
</tbody>
</table>

*Courses that fit requirement for Ensembles = Jazz Combo, NNMC Big Band, Gospel Choir, Eagle Choir, Mixed Chorus Jazz, Women’s Ensemble, Musica Folklorica Ensemble, Mariachi Ensemble, Blues / Rock Ensemble*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 140</td>
<td>Applied Lessons I (2)</td>
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<tr>
<td>MUS 141</td>
<td>Applied Lessons II (2)</td>
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<tr>
<td>MUS 241</td>
<td>Applied Lessons III (2)</td>
<td></td>
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<tr>
<td>MUS 242</td>
<td>Applied Lessons IV (2)</td>
<td></td>
</tr>
<tr>
<td>MUS 291</td>
<td>Recital (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 230</td>
<td>Class Piano III (1) or test out</td>
<td></td>
</tr>
<tr>
<td>MUS 249</td>
<td>Chamber Music I (1)</td>
<td></td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>MUS 321</td>
<td>Class Piano IV (1) or test out</td>
<td></td>
</tr>
<tr>
<td>MUS 135</td>
<td>Group Recital I (0) (one per semester)</td>
<td></td>
</tr>
<tr>
<td>MUS 136</td>
<td>Group Recital II (0)</td>
<td></td>
</tr>
<tr>
<td>MUS 137</td>
<td>Group Recital III (0)</td>
<td></td>
</tr>
<tr>
<td>MUS 138</td>
<td>Group Recital IV (0)</td>
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**UPPER-DIVISION CORE REQUIREMENTS (36 CR)**

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>MUS 310</td>
<td>Western Music History I (3)</td>
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</tr>
<tr>
<td>MUS 324</td>
<td>Western Music History II (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 340</td>
<td>Applied Lessons V (3)</td>
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</tr>
<tr>
<td>MUS 341</td>
<td>Applied Lessons VI (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 440</td>
<td>Applied Lessons VII (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 441</td>
<td>Applied Lessons VIII (3)</td>
<td></td>
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<tr>
<td>MUS 313</td>
<td>Ensemble V (1)</td>
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</tr>
<tr>
<td>MUS 314</td>
<td>Ensemble VI (1)</td>
<td></td>
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<tr>
<td>MUS 410</td>
<td>Ensemble VII (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 411</td>
<td>Ensemble VIII (1)</td>
<td></td>
</tr>
<tr>
<td>MUS 349</td>
<td>Chamber Music II (1)</td>
<td></td>
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<tr>
<td>MUS 449</td>
<td>Chamber Music III (1)</td>
<td></td>
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<tr>
<td>MUS 391</td>
<td>Junior Recital (1)</td>
<td></td>
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<tr>
<td>MUS 491</td>
<td>Senior Recital (2)</td>
<td></td>
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<tr>
<td>MUS 306</td>
<td>Conducting I (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 307</td>
<td>Pedagogy (3)</td>
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<td>MUS 381</td>
<td>Music Technology (3)</td>
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<td>MUS 366</td>
<td>Group Recital V (0)</td>
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<td>MUS 367</td>
<td>Group Recital VI (0)</td>
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<tr>
<td>MUS 416</td>
<td>Group Recital VII (0)</td>
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<tr>
<td>MUS 369</td>
<td>Group Recital VIII (0)</td>
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**UPPER DIVISION CONCENTRATIONS**

**Instrumental Performance (21 cr)**

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<tr>
<td>MUS 307</td>
<td>Conducting 2 (3)</td>
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<tr>
<td>MUS 322</td>
<td>Music Theory Elective I (3)</td>
<td></td>
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<tr>
<td>MUS 323</td>
<td>Music Theory Elective II (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 424</td>
<td>Music History Elective (3) a any semester, topic variable</td>
<td></td>
</tr>
<tr>
<td>MUS 435</td>
<td>Instrumentation and Orchestration (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 407</td>
<td>Music Literature (major instrument) (3)</td>
<td></td>
</tr>
<tr>
<td>MUS 403</td>
<td>Performance Practice (3)</td>
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**Contemporary Music (27 cr)**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MUS 204</td>
<td>Jazz Keyboard Skills I (3)</td>
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<tr>
<td>MUS 305</td>
<td>Contemporary Theory I (3)</td>
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</tr>
<tr>
<td>MUS 325</td>
<td>Contemporary Theory II (3)</td>
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<tr>
<td>MUS 425</td>
<td>Contemporary Music History I (3)</td>
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</table>
MUS 351 Contemporary Improvisation (3)
MUS 426 Contemporary Music History II (3)
MUS 433 Contemporary Arranging and Scoring (3)
MUS 403 Performance Practice (3)
MUS 436 Transcription and Composition (3)

New Mexican Music (21 cr)
MUS 322 Music Theory V (3)
MUS 323 Music Theory VI (3)
MUS 403 Performance Practice (3)
MUS 427 New Mexican Music History (3)
MUS 428 New Mexican Music Literature (3)
MUS 433 Contemporary Arranging and Scoring (3)
MUS 436 Transcription and Composition (3)

Voice Performance (23 cr)
MUS 322 Music Theory V (3)
MUS 323 Music Theory VI (3)
MUS 407 Music Literature (major instrument) (3)
MUS 424 Music History Topics (3) * any semester; topic variable
MUS 435 Instrumentation and Orchestration (3)
MUS 450 Diction for Singers (3)
DANC 149 Ballet I (2)
THE 122 Acting I (3)

TOTAL CREDITS: 128-136

SEQUENCE OF COURSES

Lower Division

Semester 1

ENG 111 English Composition I (3)
FYE 101 First Year Experience (3)
MUS 131 Introduction to Music (3)*
MUS 150 Music Theory I (3)
MUS 100 Aural Skills I (1)
MUS 140 Applied Lessons I (2)
MUS 104 Ensemble I (1)
MUS 230 Class piano III (1)* or test out
MUS 135 Group Recital I (0)

TOTAL: 16-17 credits

Semester 2

ENG 112 English Composition II (3)
or
ENG 116 Technical Writing (3)
Area II Math Elective (3)
Area III  Lab Science Elective I (4)
MUS 151  Music Theory II (3)
MUS 106  Aural Skills II (1)
MUS 141  Applied Lessons II (2)
MUS 120  Ensemble II (1)
MUS 321  Class piano 4 IV (1)* or test out
MUS 136  Group Recital II (0)
TOTAL: 17-18 credits

Semester 3
Area III  Lab Science Elective (4)
Area IV  Social/Behavioral Science (3)
Area V  Humanities & Fine Arts (3)
MUS 224  Music Theory III (3)
MUS 200  Aural Skills III (1)
MUS 241  Applied Lessons III (2)
MUS 243  Ensemble III (1)
MUS 249  Chamber music I (1)
MUS 137  Group Recital III (0)
TOTAL: 18 credits

Semester 4
Area IV  Social/Behavioral Science (3)
Area V  Humanities & Fine Arts (3)
SPCH 130  Public Speaking (3)
MUS 224  Music Theory IV (3)
MUS 206  Aural Skills IV (1)
MUS 242  Applied Lessons IV (2)
MUS 244  Ensemble IV (1)
MUS 291  Recital (1)
MUS 138  Group Recital IV (0)
TOTAL: 17 credits

Upper Division

INSTRUMENTAL PERFORMANCE CONCENTRATION

Semester 5
MUS 366  Group Recital V (0)
MUS 322  Music Theory V (3)
MUS 310  Western Music History I (3)
MUS 340  Applied Lessons V (3)
MUS 313  Ensemble V (1)
MUS 349  Chamber Music II (2)
MUS 306  Conducting I (3)
MUS 381  Music Technology (3)
TOTAL: 18 credits
## Semester 6

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<tr>
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<tbody>
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<td>Music Theory VI</td>
<td>3</td>
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<td>MUS 324</td>
<td>Western Music History II</td>
<td>3</td>
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<td>MUS 341</td>
<td>Applied Lessons VI</td>
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<tr>
<td>MUS 314</td>
<td>Ensemble VI</td>
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<td>MUS 391</td>
<td>Junior Recital</td>
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<td>MUS 307</td>
<td>Conducting II</td>
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**TOTAL: 14 credits**

## Semester 7

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<tr>
<td>MUS 424</td>
<td>Music History Topics I</td>
<td>3</td>
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<td>MUS 440</td>
<td>Applied Lessons VII</td>
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<td>MUS 410</td>
<td>Ensemble VII</td>
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<td>MUS 449</td>
<td>Chamber Music III</td>
<td>2</td>
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<tr>
<td>MUS 403</td>
<td>Performance Practice</td>
<td>3</td>
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<tr>
<td>MUS 435</td>
<td>Instrumentation/Orchestration</td>
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**TOTAL: 15 credits**

## Semester 8

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<tr>
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<td>Group Recital VIII</td>
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<tr>
<td>MUS 407</td>
<td>Music Literature</td>
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<tr>
<td>MUS 441</td>
<td>Applied Lessons VIII</td>
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<td>MUS 411</td>
<td>Ensemble VIII</td>
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<tr>
<td>MUS 491</td>
<td>Senior Recital</td>
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<td>MUS 365</td>
<td>Pedagogy</td>
<td>3</td>
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<td>Second Language</td>
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**TOTAL: 15 credits**

## CONTEMPORARY CONCENTRATION

### Semester 5

<table>
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<td>Group Recital V</td>
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<tr>
<td>MUS 322</td>
<td>Music Theory V</td>
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<tr>
<td>MUS 310</td>
<td>Western Music History I</td>
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<td>MUS 340</td>
<td>Applied Lessons V</td>
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<tr>
<td>MUS 313</td>
<td>Ensemble V</td>
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<tr>
<td>MUS 349</td>
<td>Chamber Music II</td>
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<tr>
<td>MUS 306</td>
<td>Conducting I</td>
<td>3</td>
</tr>
<tr>
<td>MUS 381</td>
<td>Music Technology</td>
<td>3</td>
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</table>

**TOTAL: 18 credits**
Semester 6
- MUS 367 Group Recital VI (0)
- MUS 323 Music Theory VI (3)
- MUS 324 Western Music History II (3)
- MUS 341 Applied Lessons VI (3)
- MUS 314 Ensemble VI (1)
- MUS 391 Junior Recital (1)
- MUS 307 Conducting II (3)

TOTAL: 17 credits

Semester 7
- MUS 416 Group Recital VII (0)
- MUS 425 Contemporary Music History I (3)
- MUS 440 Applied Lessons VII (3)
- MUS 410 Ensemble VII (1)
- MUS 449 Chamber Music III (1)
- MUS 351 Contemporary Improvisation (3)
- MUS 403 Performance Practice (3)
- MUS 433 Contemporary Arranging I: Small Ensemble (3)

TOTAL: 18 credits

Semester 8
- MUS 417 Group Recital VIII (0)
- MUS 426 Contemporary Music History II (3)
- MUS 441 Applied Lessons VIII (3)
- MUS 411 Ensemble VIII (1)
- MUS 491 Senior Recital (2)
- MUS 365 Pedagogy (3)
- MUS 436 Transcription/Composition (3)

TOTAL: 15 credits

NEW MEXICAN MUSIC CONCENTRATION

Semester 5
- MUS 366 Group Recital V (0)
- MUS 322 Music Theory V (3)
- MUS 310 Western Music History I (3)
- MUS 340 Applied Lessons V (3)
- MUS 313 Ensemble V (1)
- MUS 349 Chamber Music II (2)
- MUS 306 Conducting I (3)
- MUS 381 Music Technology (3)

TOTAL: 18 credits
 Semester 6
MUS 367 Group Recital VI (0)
MUS 323 Music Theory VI (3)
MUS 324 Western Music History II (3)
MUS 341 Applied Lessons VI (3)
MUS 314 Ensemble VI (1)
MUS 391 Junior Recital (1)
MUS 307 Conducting II (3)
Second Language (3)
TOTAL: 17 credits

 Semester 7
MUS 416 Group Recital VII (0)
MUS 427 New Mexican Music History (3)
MUS 440 Applied Lessons VII (3)
MUS 410 Ensemble VII (1)
MUS 449 Chamber Music III (2)
MUS 403 Performance Practice (3)
MUS 433 Contemporary Arranging I: Small Ensemble (3)
TOTAL: 15 credits

 Semester 8
MUS 417 Group Recital VIII (0)
MUS 428 New Mexican Music Lit (3)
MUS 441 Applied Lessons VIII (3)
MUS 411 Ensemble VIII (1)
MUS 491 Senior Recital (2)
MUS 365 Pedagogy (3)
MUS 436 Transcription/Composition (3)
TOTAL: 15 credits

VOICE CONCENTRATION

 Semester 5
MUS 366 Group Recital V (0)
MUS 322 Music Theory V (3)
MUS 310 Western Music History I (3)
MUS 340 Applied Lessons V (3)
MUS 313 Ensemble V (1)
MUS 349 Chamber Music II (2)
MUS 306 Conducting I (3)
MUS 381 Music Technology (3)
TOTAL: 18 credits
### Semester 6

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 367</td>
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<td>MUS 323</td>
<td>Music Theory VI (3)</td>
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<tr>
<td>MUS 324</td>
<td>Western Music History II (3)</td>
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<td>MUS 341</td>
<td>Applied Lessons VI (3)</td>
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<td>MUS 314</td>
<td>Ensemble VI (1)</td>
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<tr>
<td>DANC 149</td>
<td>Ballet I (2)</td>
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<td>Second Language (3)</td>
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**TOTAL: 16 credits**

### Semester 7

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<td>MUS 416</td>
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<td>MUS 424</td>
<td>Music History Elective I (3)</td>
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<td>Applied Lessons VII (3)</td>
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<td>MUS 410</td>
<td>Ensemble VII (1)</td>
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<tr>
<td>MUS 449</td>
<td>Chamber Music III (2)</td>
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<tr>
<td>MUS 450</td>
<td>Diction for Singers (3)</td>
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<tr>
<td>MUS 435</td>
<td>Instrumentation/Orchestration (3)</td>
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**TOTAL: 15 credits**

### Semester 8

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>MUS 417</td>
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<tr>
<td>MUS 408</td>
<td>Music Literature (3)</td>
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<td>MUS 441</td>
<td>Applied Lessons VIII (3)</td>
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<td>MUS 411</td>
<td>Ensemble VIII (1)</td>
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<tr>
<td>MUS 491</td>
<td>Senior Recital (2)</td>
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<tr>
<td>MUS 365</td>
<td>Pedagogy (3)</td>
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</tr>
<tr>
<td>THE 122</td>
<td>Acting I (3)</td>
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</table>

**TOTAL: 15 credits**
Associate of Arts
MUSIC

This program is designed for those interested in pursuing a career in music by continuing with Bachelor’s degree study at NNMC or other regional institutions. It is identical to the first two years of the Bachelor’s degree in music.

Students enrolled in applied lessons will take a performance evaluation (PE) and perform in all group recitals every semester, which will determine a portion of their grade for lessons. Students enrolled in the fourth semester of applied lessons will give a 20-minute shared recital in lieu of the juried examination. At least 2 weeks before giving the MUS 291 recital, students are required to receive a passing recommendation on a recital preview performance evaluation with at least two faculty members in attendance. All students enrolled in applied lessons are also required to concurrently enroll in group recital.

Transfer credits are awarded at the discretion of the Director. An examination may be required for all transfer credits. Concentrations in a specific instrument or performance area will be accomplished through lessons and ensembles on that instrument.

Ensembles: Specific performance group requirements are controlled by the degree plan in each concentration area and are subject to the music advisor’s judgment in the best interest of that student. All students enrolled in applied lessons must participate in an ensemble appropriate to and required by their degree program.

GENERAL EDUCATION (38 CR)
Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (33-35 CR)

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<tr>
<td>MUS 100</td>
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<td>MUS 106</td>
<td>Aural Skills II</td>
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<td>MUS 200</td>
<td>Aural Skills III</td>
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<td>MUS 206</td>
<td>Aural Skills IV</td>
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<tr>
<td>MUS 131</td>
<td>Intro to Music</td>
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<tr>
<td>MUS 150</td>
<td>Music Theory I</td>
<td>3</td>
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<tr>
<td>MUS 151</td>
<td>Music Theory II</td>
<td>3</td>
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<tr>
<td>MUS 224</td>
<td>Music Theory III</td>
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<tr>
<td>MUS 225</td>
<td>Music Theory IV</td>
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<tr>
<td>MUS 104</td>
<td>Ensemble I*</td>
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</table>
MUS 120  Ensemble II* (1)
MUS 243  Ensemble III* (1)
MUS 244  Ensemble IV* (1)
MUS 140  Applied Lessons I (2)
MUS 141  Applied Lessons II (2)
MUS 241  Applied Lessons III (2)
MUS 242  Applied Lessons IV (2)
MUS 291  Recital (1)
MUS 249  Chamber Music I (1)
MUS 230  Class Piano III (1)* or test out
MUS 321  Class Piano IV (1)* or test out
MUS 135  Group Recital I (0)
MUS 136  Group Recital II (0)
MUS 137  Group Recital III (0)
MUS 138  Group Recital IV (0)

* Courses that fit requirement for Ensembles = Jazz Combo, NNMC Big Band, Gospel Choir, Eagle Choir, Mixed Chorus Jazz, Women’s Ensemble, Musica Folklorica Ensemble, Mariachi Ensemble, Blues/Rock Ensemble

TOTAL CREDITS: 71-73

SUGGESTED SEQUENCE OF STUDY

Semester 1

ENG 111  English Composition I (3)
FYE 101  First Year Experience (3)
MUS 131  Introduction to Music (3)
MUS 150  Music Theory I (3)
MUS 100  Aural Skills I (1)
MUS 140  Applied Lessons I (2)
MUS 104  Ensemble I (1)
MUS 230  Class piano III (1)* or test out
MUS 135  Group Recital I (0)

TOTAL: 18-19 credits

Semester 2

ENG 112  English Composition II
or
ENG 116  Technical Writing (3)
Area II  Math Elective I (3)
Area III  Lab Science Elective I (4)
MUS 151  Music Theory II (3)
MUS 106  Aural Skills II (1)
MUS 141  Applied Lessons II (2)
MUS 120  Ensemble II (1)
MUS 321  Class piano IV (1) or test out
<table>
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<td>Group Recital II (0)</td>
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**Semester 3**

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<td>Social/Behavioral Science (3)</td>
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<tr>
<td>Area V</td>
<td>Humanities &amp; Fine Arts (3)</td>
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<tr>
<td>MUS 224</td>
<td>Music Theory III (3)</td>
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<td>MUS 200</td>
<td>Aural Skills III (1)</td>
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<td>MUS 241</td>
<td>Applied Lessons III (2)</td>
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<td>MUS 243</td>
<td>Ensemble III (1)</td>
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<td>MUS 249</td>
<td>Chamber Music I (1)</td>
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<td>MUS 137</td>
<td>Group Recital III (0)</td>
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**Semester 4**

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<td>Area V</td>
<td>Humanities &amp; Fine Arts (6) two courses</td>
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<tr>
<td>SPCH 130</td>
<td>Public Speaking (3)</td>
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<td>Recital (1)</td>
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<td>TOTAL:</td>
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</table>
Associate of Arts
SOUTHWEST HERITAGE ARTS

This program is designed to maximize transfer of credit to a four-year program. In addition to a generous exposure to general education courses, you will concentrate your efforts in southwest heritage arts.

GENERAL EDUCATION (38 CR)

Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6 cr)
Area V. Humanities and Fine Arts (9 cr)

ART 208 History of NM Art and Architecture (3)

Select two courses in Area V on page 28, one of which is not Art. (6)

Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (24-25 CR)

ART 115 Traditional Woodcarving (3)
ART 130 Tinsmithing I (3)
ART 152 Traditional Spanish Colonial Retablo Making (3)
ART 158 Bulto Making (3)
ART 180 Micaceous Pottery I (3)
ART 231 Tinsmithing II (3)

or

ART 150 Basic Jewelry & Metalworking (3)*
FA 100 Intro. to Weaving (3)

or

ART 156 Pueblo Sash Weaving (3)*

Choose ONE course from the following:

ART 110 Drawing I (3)
ART 120 Painting I (3)
ART 122 Design Elements in Art (3)
ART 155 Pueblo Embroidery (3)*
ART 160 Pottery I (3)
ART 170 Photography I (3)
ART 190 Silversmithing (3)*
SCFM 110L Spanish Colonial Furniture Making Lab (4)

* Poeh Ctr. Only

TOTAL CREDITS: 62-63
Associate of Arts
THEATRE

This program is designed to maximize transfer of credit to a four-year program. In addition to a generous exposure to general education courses, you will concentrate your efforts in theatre.

GENERAL EDUCATION (38 CR)
Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6 cr)
Area V. Humanities and Fine Arts (9 cr)

    THE 120 Introduction to Theatre I (3)
    THE 130 History of Theatre (3)

Select one Area V course, not in Theatre, from page 28. (3)

Area VI. First Year Experience (3 cr)

    FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (24 CR)

    THE 122 Acting I (3)
    THE 126 Speech and Movement for Theatre (2)
    THE 132 Stagecraft (3)
    THE 150 Stage Production (2)
    THE 196 Introduction to Light and Sound (3)
    THE 218 Acting II (3)
    THE 250 Stage Management (2)

Choose six (6) credit hours from the following:

    THE 124 Acting for Film, TV, and Commercial (3)
    THE 134 Introduction to Costuming (2)
    THE 220 Introduction to Theatre II (3)
    THE 224 Playwriting (3)
    THE 225 Creative Drama Techniques for the Classroom K-12 (3)
    THE 226 Directing & Play Production (2)
    THE 228 Performance Poetry (2)
    THE 238 Teatro Chicana/o (3)
    THE 290 Design for the Theatre (3)
    THE 296 Advanced Light & Sound (3)

TOTAL CREDITS: 62
## Associate of Arts
### TECHNICAL THEATRE

This program is designed to maximize transfer of credit to a four-year program. In addition to a generous exposure to general education courses, you will concentrate your efforts in one of the following areas of specialization.

### GENERAL EDUCATION (38 CR)

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Area II. Mathematics (3 cr)</td>
</tr>
<tr>
<td>Area III. Laboratory Sciences (8 cr)</td>
</tr>
<tr>
<td>Area IV. Social/Behavioral Sciences (6 cr)</td>
</tr>
<tr>
<td>Area V. Humanities and Fine Arts (9 cr)</td>
</tr>
</tbody>
</table>

#### Course Descriptions

- THE 120 Introduction to Theatre I (3)
- THE 130 History of Theatre (3)
- Select one Area V course, not in theater, from page 28. (3)

### Area VI. First Year Experience (3 cr)

| FYE 101 First Year Experience (3) |

### PROGRAM REQUIREMENTS (24 CR)

<table>
<thead>
<tr>
<th>THE 122 Acting I (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE 132 Stagecraft (3)</td>
</tr>
<tr>
<td>THE 134 Introduction to Costuming (2)</td>
</tr>
<tr>
<td>THE 150 Stage Production (2)</td>
</tr>
<tr>
<td>THE 196 Introduction to Light and Sound (3)</td>
</tr>
<tr>
<td>THE 250 Stage Management (2)</td>
</tr>
<tr>
<td>THE 290 Design for the Theatre (3)</td>
</tr>
<tr>
<td>THE 296 Advanced Light &amp; Sound (3)</td>
</tr>
</tbody>
</table>

Choose three (3) credit hours from the following:

- THE 124 Acting for Film, TV, and Commercial (3)
- THE 126 Speech & Movement (2)
- THE 218 Acting II (3)
- THE 220 Introduction to Theatre II (3)
- THE 224 Playwriting (3)
- THE 225 Creative Drama Techniques for the Classroom K-12 (3)
- THE 226 Directing & Play Production (2)
- THE 228 Performance Poetry (2)

### TOTAL CREDITS: 62
Department of Humanities, Social Sciences, & Language and Letters

The mission of the Humanities, Social Sciences, & Language and Letters Department is to provide high quality academic course work, either leading to the Bachelor’s in Integrated Studies, an associate degree, or in preparation for transfer into a baccalaureate degree program. Additionally, this department provides excellent scholastic support in the many general education courses required for any degree program pursued at Northern. Our programs are relevant to students’ personal and professional needs; they develop critical thinking skills and help transform individuals into organized, focused, empowered, and independent lifelong learners.

Our programs are organized into two categories: Humanities and Social Science. These include a Bachelor of Arts degree in Integrated Studies in the Humanities and Social Sciences, with a choice of emphasis in Humanities, Psychology, or Pueblo Indian Studies.

We also offer associate of arts degrees and associate of applied science programs designed to help you prepare for employment and/or transfer to a four-year program.

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

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Rachel Begay
Admin. Assistant
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Bachelor of Arts
INTEGRATED STUDIES in the
HUMANITIES and SOCIAL SCIENCES:
Humanities, Psychology, Crime and Justice Studies, Pueblo Indian Studies

This degree will prepare students for many careers that require reliable and flexible thinking and communication, such as in local and state government, public service, and managerial careers. It will also provide a solid basis for those wishing to pursue advanced degrees in various fields, including psychology, law, and cultural anthropology. This is an academic degree that seeks to provide not only the skills and knowledge promised by a liberal arts education but also the encouragement that will allow students to use the skills and knowledge to become effective and inspired leaders.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)
- ENG 111 English Composition I (3)
- ENG 112 English Composition II (3)
- SPCH 130 Public Speaking (3)

Area II. Mathematics (3 cr)
Choose one of the following courses:
- MATH 145 Introduction to Probability and Statistics (3)*
- MATH 150 College Algebra (3)
- MATH 151 Conceptual Mathematics (3)

Prerequisite: Math 129

Area III. Laboratory Sciences (8 cr)

Area IV. Social/Behavioral Sciences (6-9 cr)**
- PIS 200 Introduction to Pueblo Indian Studies (3)
- PSY 105 General Psychology (3)
Select one more Area IV course (or choose to fulfill the credits from Area V).

Area V. Humanities and Fine Arts (6-9 cr)**
Second Language (3)
(All PIS students must take PIS 245 to satisfy Area V.)
Select one or two more Area V courses from the list on page 28 (3-6).

Area VI. First Year Experience (3 cr)
- FYE 101 First Year Experience (3)

* Students choosing the emphasis in Psychology must take MATH 145; students choosing other emphases may choose MATH 150 or MATH 151.
**Students must complete at least 15 credits between areas IV & V, maintaining at least two disciplines in each area.
INTEGRATED STUDIES CORE PROGRAM REQUIREMENTS (21 CR)

Students in the following emphasis (Humanities, Psychology, Crime and Justice Studies, and Pueblo Indian Studies) must take all core requirements.

**Group A: Integrating Core (9 cr)**

- HSS 288 Foundations of Integrated Studies (3)
- HSS 388 Integrated Studies II (3)
- HSS 488 Integrated Studies III (3) (WIC)

**Group B: The Dialogues (12 cr)**

*Students must take three of the following Dialogue courses:*

- HSS 311 Readings in the Social Sciences (4)
- HSS 320 Genesis of Mathematics and Science (4)
- HSS 414 Humanity and Creativity (4)
- HSS 421 Themes in the Humanities: History, Literature, Art, and Philosophy (4)
- HSS 450 Readings in Crime and Justice (4)

INTEGRATED STUDIES EMPHASES REQUIREMENTS

Students must choose one of the following emphases or concentrations: Humanities, Psychology, Crime and Justice Studies, or Pueblo Indian Studies.

**HUMANITIES EMPHASIS (61 CR)**

**GROUPS A, B, C, AND D (24)**

Students must complete a total of 24 credit hours from courses that fall under the humanities umbrella, which includes English, History, and Philosophy (as well as courses that are listed under the HUM rubric). Eighteen of those hours must be upper-division. At least one course from each of the following groups:

**Group A: Philosophy**

- PHIL 300 Comparative Metaphysics (3)
- PHIL 364 Great Works of Western Philosophy (3)
- PHIL 366 Great Works of Asian Thought (3)
- PHIL 452 Philosophy of Technology (3)

**Group B: Humanistic Approaches to Myth, Psyche, and Religion**

- ENG 324 Literature as Psychological Insight (3)
- HUM 390 Topics in the Study of Religion (3)
- HUM 460 Mythic Ways of Knowing (3)
- ENG 318/HUM 318 Oral Traditions: Folk Stories (3)

**Group C: Literature**

- ENG 265/PIS 265 Native American Literature I (3)
- ENG 266/PIS 266 Native American Literature II (3)
- ENG 318 Oral Traditions: Folk Stories (3)
- ENG 456 Shakespearean Plays (3)
- ENG 468 Ecocriticism (3)
Group D: Critical Thinking

PHIL 250 Critical Thinking (3)
HUM 200 Comparative Religion (3)

Multi-Disciplinary Requirement (12 cr)

As part of the multi-disciplinary requirement, students must take at least 12 credit hours in upper division courses (300 level or higher) from Psychology, Crime and Justice Studies, or Pueblo Indian Studies. At least three of these hours must be in Pueblo Indian Studies (or, alternatively, HIST 360).

Elective Requirement for Humanities Emphasis (25 cr)

The remaining 25 credits for the baccalaureate degree (totaling 120 credits) with this emphasis are electives. No more than four hours of HPER may count toward the degree.

TOTAL CREDITS: 120

PSYCHOLOGY EMPHASIS (61 CR)

Group A and B (33 cr)

Students must complete all courses from Group A and at least 12 hours from Group B. Topic courses and independent studies may qualify in any group for substitute credits, with departmental approval. This emphasis articulates with the AA in Substance Abuse Counseling and with the AA in General Psychology and Liberal Arts.

Group A. The following 21 credit hours are required:

PHIL 250 Critical Thinking (3)
PSY 210 Theories of Personality (3)
PSY 215 Basic Counseling Skills (3)
PSY 232 Abnormal Psychology (3)
PSY 290 Developmental Psychology (3)
PSY 321 Research Design (3)
PSY 421 Independent Research Project (3)

Group B. Students must choose 12 credits from the following courses:

PSY 260 Family Systems Theory (3)
PSY 301 Biopsychology (3)
PSY 302 Issues in Death and Dying (3)
PSY 305 Positive Psychology (3)
PSY 370 Social Psychology (3)
PSY 400 Topics in Psychology (3)
PSY 410 Comparative Perspectives in Psychology (3)
PSY 411 Human Ecology (3)
PSY 456 Grief Theory and Process (3)
PSY 477 Gender and Sexuality (3)
Multi-Disciplinary Requirement (12 cr)

As part of the multi-disciplinary requirement, students must take at least 12 credit hours in upper division courses (300 level or higher) from Humanities (including any upper-division course in HUM, HIST, ENG, and PHIL), Crime and Justice Studies, or Pueblo Indian Studies. At least three of these hours must be in Pueblo Indian Studies (or, alternatively, HIST 360).

Additional Electives for Psychology Emphasis (16 cr)

The remaining 16 credits for the baccalaureate degree (totaling 120 credits) with this emphasis are electives. No more than four hours of HPER may count toward the degree.

TOTAL CREDITS: 120

PUEBLO INDIAN STUDIES EMPHASIS (61 CR)

Group A and B (24 crs)

Twenty-four credits, at least 12 upper division, must be completed from the courses listed below. Students must complete all courses in Group A and at least 18 hours in Group B. Topics courses and independent studies may qualify for substitute credits with permission of the department chair. (This emphasis articulates with the A.A. in Pueblo Indian Studies.)

Group A. The following 6 credit hours are required:

- PIS 458 Advanced Research (3)
- PIS 488 Pueblo Indian Studies Senior Seminar (3)

Group B. At least 18 hours must be chosen from the following courses:

- PIS 220 Pueblo Arts, Crafts, and Cultures (3)
- PIS 240 Research Topics in Pueblo Indian Studies (1-6)
- PIS 242 Pueblo Indian Women’s Lives (3)
- PIS 250 Internship in Tribal Leadership I (3)
- PIS 251 Internship in Tribal Leadership II (3)
- PIS 252 Pueblo Indian History (3)
- PIS 256 Pueblo Indian Government (3)
- PIS 258 Indian Gaming, Entrepreneurship, Sovereignty, & Casinos (3)
- PIS 265/ENG 265 Native American Literature I (3)
- PIS 266/ENG 266 Native American Literature II (3)
- PIS 346/HUM 346 Tourism and the Arts in New Mexico Pueblos (3)
- PIS 370 Pueblo Indians and Education (3)
- PIS 372 Pueblo Health Concepts and Practices (3)
- PIS 381/HUM 381 Spirit of Place: Native Senses of Place (3)
- PIS 386 Special Topics in PIS (3)
- PIS 483 Tewa Ethnobiology: Plants & Animals of the Tewa World (3)
- PIS 484 Agricultural Practices of the Pueblo World (3)

Multi-Disciplinary Requirement (12 cr)
As part of the multi-disciplinary requirement, students must take at least 12 credit hours in upper division courses (300 level or higher) from Humanities (including any upper-division course in HUM, HIST, ENG, and PHIL), Psychology, or Crime and Justice Studies.

**Additional Electives for PIS Emphasis (25 cr)**

The remaining 25 credits for the baccalaureate degree (totaling 120 credits) with this emphasis are electives. No more than four credits of HPER may count toward the degree.

**TOTAL CREDITS: 120**

**CRIME AND JUSTICE STUDIES EMPHASIS (61 CR)**

Students must complete all courses from Group A and at least 12 hours from Group B. Students may complete between 3-12 hours in Group C, but at least 3 hours are required. At least 12 credits must be upper division. Students must take at least 3 hours in each of the other concentration areas: Humanities, Psychology, Pueblo Indian Studies.

**Group A: Core Requirements (33 cr)**

*The following credit hours are required:*

- PHIL 220 Ethics (3)
- PHIL 250 Critical Thinking (3)
- or
- PHIL 364 Western Thought (3)
- SOC 213 Deviant Behavior (3)
- PSY 215 Basic Counseling Skills (3)
- or
- PSY 285 Crisis Intervention (3)
- PSY 232 Abnormal Psychology (3)
- PIS 256 Pueblo Indian Government (3)
- or
- PIS 252 Pueblo Indian History
- CJ 320 Theories of Crime (3)
- CJ 321 Research Design (3)
- CJ 410 Comparative Perspectives in Law (3)
- CJ 421 Independent Research Project (3)
- CJ 499 Topics in Crime and Justice (3)

**Group B: Specialization Areas (12)**

*Students must choose 12 credits from within the following specialization areas, depending upon the nature of their career goals in CJ.*

- HUM 281 Spirit of Place (3)
- HUM 324 Literature as Psychological Insight (3)
- SOC 140 Sociology of Alcohol and Substance Abuse (3)
- SOC 216 Ethnic and Cultural Relations (3)
- SOC 225 Marriage and Family (3)
- PHIL 111 History of Philosophy (3)
PHIL 300  Comparative Metaphysics (3)  
PSY 210  Theories of Personality and Counseling Applications (3)  
PSY 229  Adolescent Psychology (3)  
PSY 290  Developmental Psychology (3)  
PSY 240  Alcohol and Substance Abuse Evaluation (3)  
PSY 260  Family Systems Theory (3)  
PSY 302  Death and Dying (3)  
PSY 305  Positive Psychology (3)  
PSY 370  Social Psychology (3)  
PSY 400  Topics in Psychology (3)  
PSY 410  Comparative Perspectives in Psychology (3)  
BCIS 102  Computer Literacy (3)  
BA 240  Principles of Management (3)  
BA 313  Organizational Behavior (3)  
BA 330  Principles of Project Management (3)  
BA 334  Organizational Management (3)  
BA 360  Human Resources Management (3)  
BA 461  Ethical and Legal Issues in Management (3)  

**Group C (16 cr)**  
**Internship/Practicum/Service Learning (3-12 cr) and Electives (4-13 cr)**  
*A minimum of 3 units are required. Students may apply up to 12 credits towards their degree program.*  
CJ 488  Internship/practicum/service learning (3).  
*Can be taken more than once for credit.*

Depending upon how many Internship/Practicum/Service Learning credits are applied, the student will need to take additional credits coming from electives to reach 16 credits for Group C, of which 9 credits must be upper division, and no more than 4 units of HPER and no more than 6 credits of studio hours.

For example, if the student provided the minimum of 3 credits in Group C, he or she would need 13 credits in electives. If the student applies the maximum of 12 credits to fulfill Group C, then electives would only number 4 credits.

**TOTAL CREDITS: 120**  

**Undergraduate Minor**  
**HUMANITIES**  

To obtain a minor, students must complete eighteen (18) credit hours with a grade of “C” or better in disciplines related to the humanities. Six credit hours must be taken at Northern New Mexico College to meet residency requirements.

1. **At least one course from the following selection:**
   
   HUM  103  The Search for Meaning (3)  
   HIST  101  Western Civilization I (3)
HIST 102 Western Civilization II (3)
PHIL 110 Introduction to Philosophical Problems (3)
ENG 230 World Literature I (3)
ENG 231 World Literature II (3)

2. At least one course from one of the following:
- HUM 200 Comparative Religion (3)
- HUM 294 World Mythology (3)
- HUM 390 Topics in the Study of Religion (3)
- HUM 460 Mythic Ways of Knowing (3)
- PHIL 300 Comparative Metaphysics (3)

3. At least 12 hours of upper division courses in History, Philosophy, or Humanities.

Undergraduate Minor
PSYCHOLOGY

REQUIREMENTS FOR THE MINOR IN PSYCHOLOGY (18 CREDIT HOURS)

To obtain a minor, students must complete eighteen (18) credit hours of psychology courses with a grade of “C” or better. Six credit hours must be taken at Northern New Mexico College to meet residency requirements.

1. Students must take the following:
- PSY 105 General Psychology
- PSY 290 Developmental Psychology
- PSY 215 Theories of Personality and Counseling Applications
- PSY 232 Abnormal Psychology

2. At least 12 hours of upper division courses must be taken in psychology.

Undergraduate Minor
PUEBLO INDIAN STUDIES

Pueblo Indian Studies is committed to providing a historical foundation by integrating the unique cultural perspectives of pueblo nations and its people. Pueblo Indian Studies is situated among the academic fields of Indigenous Studies and Native American Studies that are committed to providing the context and critical thinking skills that best protect the integrity of indigenous peoples. The minor in Pueblo Indian Studies not only stresses sound academic preparation in the classroom but also encourages students to interact and conduct meaningful research with tribal governments, organizations, and communities with whom Northern continues to form strong partnerships.

The minor in Pueblo Indian Studies provides students a foundation to pursue and connect BA and BS degree programs in areas such as Biology, Business, Education, Environmental Science, Fine Arts and the Humanities.

The Pueblo Indian Studies minor requires completion of 18 credits. A minimum of nine credits must be lower-division as well as nine credits in upper-division. A minimum
grade of a “C” is required. No pass/fail non-credit courses may be applied to the minor.

All 200 level courses have a prerequisite of ENG 109N or adequate score on Course Placement Evaluation. All 300 and 400 courses have a prerequisite of PIS 200 and ENG 111.

REQUIREMENTS

1. The following courses are required:
   - PIS 200 Introduction to Pueblo Indian Studies (3)
   - PIS 245 Special Topics in Tribal Languages (3)

2. At least one course from the following:
   - PIS 240 Research Topics in Pueblo Indian Studies (3)
   - PIS 242 Pueblo Indian Women’s Lives (3)
   - PIS 252 Pueblo Indian History (3)
   - PIS 256 Pueblo Indian Government (3)
   - PIS 258 Indian Gaming (3)
   - PIS 265 Native American Literature I (3)
   - PIS 266 Native American Literature II (3)

3. Nine (9) credit hours must be selected from the following 300 or 400 Pueblo Indian Studies courses:
   - PIS 346 Tourism and the Arts in New Mexico Pueblos (3)
   - PIS 370 Pueblo Indians and Education (3)
   - PIS 372 Pueblo Health Concepts and Practices (3)
   - PIS 381 Spirit of Place: Native Senses of Place (3)
   - PIS 386 Special Topics in Pueblo Indian Studies (3)
   - PIS 458 Advanced Research (3)
   - PIS 483 Tewa Ethnobiology (3)
   - PIS 484 Agricultural Practices of the Pueblo World (3)
   - PIS 488 Pueblo Indian Studies Senior Seminar (3)

Associate of Arts

CRIMINAL JUSTICE

This program is designed to prepare students for entry-level positions in law enforcement or related agencies and for transfer into a four-year program.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)

Area II. Mathematics (3 cr)
   - MATH 145 Introduction to Probability and Statistics (3)
   - or
   - MATH 150 College Algebra (3)

Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PSY</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC</td>
<td>Introduction to Sociology</td>
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</table>

Choose one additional survey course from the list on page 27 (0-3).

Area V. Humanities and Fine Arts (6-9 cr)

Area VI. First Year Experience (3 cr)

<table>
<thead>
<tr>
<th>Code</th>
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PROGRAM REQUIREMENTS (24 CR)

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<th>Course Title</th>
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<tbody>
<tr>
<td>CJ</td>
<td>Introduction to Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Introduction to Criminology</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Courts and Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Criminal Justice &amp; Comm. Relations</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Introduction to Corrections</td>
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<td>CJ</td>
<td>Juvenile Justice Procedures</td>
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Choose one of the following two courses:

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<tbody>
<tr>
<td>CJ</td>
<td>Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Forensic Investigation</td>
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</table>

TOTAL CREDITS: 62

Associate of Arts

GENERAL PSYCHOLOGY
(Formerly Associate of Arts Human Services)

This program will provide an environment that broadens perspectives, builds self-awareness, and develops effective skills for human services work. This program is designed for students wishing to complete a baccalaureate degree in the social sciences, including psychology, sociology, or social work.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)

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Area II. Mathematics (3 cr)

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<tbody>
<tr>
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<td>or</td>
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<tr>
<td>MATH</td>
<td>College Algebra</td>
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Area III. Laboratory Sciences (8 cr)

Area IV. Social/Behavioral Sciences (6-9 cr)

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Choose one additional survey course from the list on page 27 (0-3).

Area V. Humanities and Fine Arts (6-9 cr)

Area VI. First Year Experience (3 cr)

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Associate of Arts

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GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

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</tr>
<tr>
<td>SOC</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one additional survey course from the list on page 27 (0-3).

Area V. Humanities and Fine Arts (6-9 cr)

Area VI. First Year Experience (3 cr)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE</td>
<td>First Year Experience</td>
<td>3</td>
</tr>
</tbody>
</table>

PROGRAM REQUIREMENTS (24 CR)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ</td>
<td>Introduction to Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Introduction to Criminology</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Courts and Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Criminal Justice &amp; Comm. Relations</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Introduction to Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Juvenile Justice Procedures</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following two courses:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ</td>
<td>Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CJ</td>
<td>Forensic Investigation</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 62

Associate of Arts

GENERAL PSYCHOLOGY
(Formerly Associate of Arts Human Services)

This program will provide an environment that broadens perspectives, builds self-awareness, and develops effective skills for human services work. This program is designed for students wishing to complete a baccalaureate degree in the social sciences, including psychology, sociology, or social work.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG</td>
<td>English Composition I</td>
<td>3</td>
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<tr>
<td>ENG</td>
<td>English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>SPCH</td>
<td>Public Speaking</td>
<td>3</td>
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</table>

Area II. Mathematics (3 cr)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH</td>
<td>Introduction to Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td>College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

Area III. Laboratory Sciences (8 cr)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one additional survey course from the list on page 27 (0-3).
Area IV. Social/Behavioral Sciences (6-9 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 105</td>
<td>3</td>
<td>General Psychology</td>
</tr>
<tr>
<td>SOC 101</td>
<td>3</td>
<td>Introduction to Sociology</td>
</tr>
</tbody>
</table>

*Students may select one more Area IV course.*

Area V. Humanities and Fine Arts (6-9 cr)

Area VI. First Year Experience (3 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE 101</td>
<td>3</td>
<td>First Year Experience</td>
</tr>
</tbody>
</table>

**PROGRAM REQUIREMENTS (24 CR)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 215</td>
<td>3</td>
<td>Basic Counseling Skills</td>
</tr>
<tr>
<td>PSY 232</td>
<td>3</td>
<td>Abnormal Psychology</td>
</tr>
<tr>
<td>PSY 260</td>
<td>3</td>
<td>Family Systems Theory and Counseling Applications</td>
</tr>
<tr>
<td>PSY 275</td>
<td>3</td>
<td>Group Process</td>
</tr>
<tr>
<td>PSY 290</td>
<td>3</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>PHIL 250</td>
<td>3</td>
<td>Critical Thinking</td>
</tr>
</tbody>
</table>

**ELECTIVE REQUIREMENTS**

The remaining 6 credits for the Associate of Arts in General Psychology are electives. No more than three hours of HPER may count toward the degree.

**TOTAL CREDITS: 62**

**Associate of Arts**

**LIBERAL ARTS**

This program provides a strong academic foundation for successful transfer to various bachelor degrees, such as the Bachelor of Arts in Integrated Studies at Northern or a Bachelor of Arts in University Studies at other institutions.

This degree fosters exploration of differing perspectives and fields of study and provides development of essential skills of critical thinking, communication, and creativity, and supports awareness of community and diversity.

Students earning an AA degree in Liberal Arts will identify a concentration as an emphasis for the degree.

**GENERAL EDUCATION (38 CR) SEE PAGES 26-29.**

**Area I. Communications (9 cr)**

**Area II. Mathematics (3 cr)**

**Area III. Laboratory Sciences (8 cr)**

**Area IV. Social/Behavioral Sciences (6-9 cr)**

**Area V. Humanities and Fine Arts (6-9 cr)**
Area VI. First Year Experience (3 cr)
  FYE   101  First Year Experience (3)

PROGRAM REQUIREMENTS (24 CR)

Foundations in the Liberal Arts (9 cr)
  Critical Thinking:
    PHIL  250  Critical Thinking (3)
  Second Language:
    SPAN courses or PIS 245 (3)
  Creative Studies (3)
  Choose one course from the following list of courses
    ENG  221  Creative Writing
    ART   105, 107, 208, or 211
    MUS   105
    THE  120, 130, 224, or 238
    DANC  240 or 245
    FDMA  101, 102, 115, 280

Concentration in a Specific Discipline (9 cr)
  Students are required to take three courses (9 credit hours) from one of the following academic areas:
    Philosophy (PHIL)
    History (HIST)
    Literature (ENG, excluding ENG 111, 112, and 116)
    Sociology (SOC)
    Psychology (PSY)
  Students may choose to create a concentration of Cultural Studies, which would combine approved courses with ENG, PIS, HUM, HIS, PHIL, SOC, CHIC, or ANTH prefixes.

Electives (3 cr)
  Must be taken from the following discipline areas:
    Area I. Communications
    Area II. Mathematics
    Area III. Laboratory Sciences
    Area IV. Social/Behavioral Sciences
    Area V. Humanities and Fine Arts

Elective from any discipline (3 cr)

TOTAL CREDITS: 62
Associate of Applied Science
POLICE SCIENCE

This program is designed specifically to allow police officers who have completed the New Mexico Law Enforcement Academy to complete an associate degree within the field of law enforcement.

When students apply to Northern for this major, they must supply the Registrar a copy of their Law Enforcement Academy certificate of completion in order to obtain credit for the training.

GENERAL EDUCATION (25 CR) SEE PAGES 26-29

| Area I. Communications (6 cr)                  | ENG 111 | English Composition I (3) |
|                                              | SPCH 130 | Public Speaking (3) |

| Areas II and III. Mathematics/Computers/Laboratory Science (6 cr) |
| BCIS 102 | Computer Literacy (3) |
| MATH 145 | Intro to Probability & Statistics (3) |

| Area IV. Social/Behavioral Sciences (6 cr)     | PSCI 210 | State and Local Government (3) |
|                                              | SOC 101  | Introduction to Sociology (3) |

| Area V. Humanities and Fine Arts (6 cr)        | HUM 100 | History and Culture of Northern New Mexico (3) |
|                                              | PHIL 220 | Ethics (3) |

| Area VI. First Year Experience (3 cr)          | FYE 101 | First Year Experience (3) |

PROGRAM REQUIREMENTS (43 CR)

| CJ 228 | Forensic Investigation (3) |
| ENG 116 | Technical Writing (3) |
| SOC 140 | Sociology of Alcohol & Substance Abuse (3) |
| SPAN 100, 101/102 or 111/112 (3) |

NM Law Enforcement Academy Certification
which includes credit for the following courses (31 cr):

| CJ 111 | Introduction to Criminal Justice (4) |
| CJ 201 | Criminal Law (3) |
| HPER Electives (2) [meets graduation requirement] |
| SOC 213 | Deviant Behavior (3) |

Law Enforcement Electives (19):

| LE 130 | Patrol, Communications, and Investigations (6) |
| LE 235 | Traffic Enforcement and Accident Investigation (3) |
| LE 236 | Police Proficiency I (3) |
LE 237  Police Proficiency II (3)
LE 238  Police Proficiency III (3)
LE 239  First Responder for Law Enforcement (1)

TOTAL CREDITS: 68

Associate of Arts
PUEBLO INDIAN STUDIES

This program is committed to broadening students’ knowledge in the histories, languages, culture, art, and contemporary situations of Pueblo Indian nations and peoples. It is designed to protect the integrity and identity of the Pueblo populations of New Mexico and Arizona and to create a learning environment conducive to critical and creative thought.

It not only stresses sound academic preparation in the classroom but also encourages students to interact and conduct research with Pueblo Indian governments, organizations, and communities, with whom Northern continues to form strong partnerships.

Completion of this program will provide a foundation for degrees in the social sciences, intercultural and interdisciplinary studies, and for employment in Pueblo Indian enterprises, including Pueblo Indian government offices, casinos, schools, health clinics, etc.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29

Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
Area VI. First Year Experience (3 cr)
    FYE 101  First Year Experience (3)

PROGRAM REQUIREMENTS (24 CR)

The following six credit hours are required:
    PIS 200  Introduction to Pueblo Indian Studies (3)
    PIS 245  Special Topics in Tribal Languages (3)

Choose 18 credits from the following courses:
    PIS 220  Pueblo arts, Crafts, and Culture (3)
    PIS 240  Research Topics in Pueblo Indian Studies (1-6)
    PIS 242  Pueblo Indian Women’s Lives (3)
    PIS 250  Internship in Tribal Leadership I (3)
Certificate

RESIDENTIAL ASSISTANT

This program is for Resident Assistants at Santa Fe Indian School. It meets the requirements established by the U.S. Department of Education for meeting the requirements for staff working in a residential setting.

The prerequisite for entering and remaining in this program is a current certification in CPR/First Aid.

GENERAL EDUCATION (14 CR)

Area I. Communications (4 cr)
   
   ENG 109NL Basic Composition II (4)

Area II. Mathematics (4 cr)
   
   MATH 100N Fundamentals of Mathematics (4)

Area V. Humanities and Fine Arts (6 cr)
   
   Choose 2 courses from the following:
   
   ENG 265 Native American Literature I (3)
   HIST 250 American Indian History (3)
   PIS 200 Introduction to Pueblo Indian Studies (3)

PROGRAM REQUIREMENTS (21 CR)

   HSCI 109 CPR/First Aid (.5)
   PSY 150 Personal Growth (3)
   PSY 215 Basic Counseling Skills (3)
   ED 220 Educational Psychology (3)
   PSY 229 Adolescence Psychology (3)
   PSY 260 Family Systems Theory and Counseling Application (3)
   PSY 262 Intervening in Adolescent Behavior (3)
   SOC 140 Sociology of Substance Abuse (3)

TOTAL CREDITS: 35
Associate of Arts
SUBSTANCE ABUSE COUNSELOR

This program will provide an environment that broadens perspectives, builds self-awareness, and develops effective skills for substance abuse counseling. This degree prepares students for licensing as a Substance Abuse Counselor in New Mexico. The program is also designed for students wishing to complete a baccalaureate degree in the social sciences, including psychology, sociology, or social work, with an emphasis in substance abuse counseling.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)
- ENG 111 English Composition I (3)
- SPCH 130 Public Speaking (3)
- ENG 112 English Composition II (3)

Area II. Mathematics (3 cr)
- MATH 145 Introduction to Probability and Statistics (3)

Area III. Laboratory Sciences (8 cr)
- BIOL 110/L Survey of Modern Biology w/Lab (4)
Students may substitute BIOL 201/L for BIOL 110/L.
Choose one other Area III survey course (with lab) from the list on page 27.

Area IV. Social/Behavioral Sciences (9 cr)
- PSY 105 General Psychology (3)
- PSY 232 Abnormal Psychology (3)
- SOC 101 Introduction to Sociology (3)

Area V. Humanities and Fine Arts (6 cr)

Area VI. First Year Experience (3 cr)
- FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (24 CR)
- PSY 140 Introduction to Substance Abuse Studies (3)
- PSY 141 Psychology of Alcohol & Drug Abuse (3)
- PSY 215 Basic Counseling Skills (3)
- PSY 250 Alcohol & Drug Abuse Assessment, Treatment, & Referral (3)
- PSY 260 Family Systems Theory and Counseling Applications (3)
- PSY 275 Group Process (3)
- SOC 140 Sociology of Alcohol & Drug Abuse (3)

Students must choose one of the following courses depending on advisor approval:
- PSY 281 Practicum – Substance Abuse Counselors (3) or
- HSS 288 Foundations of Integrated Studies (3)

TOTAL CREDITS: 62
Department of Biology, Chemistry & Environmental Sciences

The mission of the Biology, Chemistry and Environmental Science Department at NNMC is to provide a progressive and balanced learning experience to prepare students for placement in advanced professional programs, and applied technical and research-oriented careers. Our department is committed to student education in fundamental concepts, laboratory and field techniques, research principles and practices that are aligned with marketable skills and the pursuit of life-long scholarship to meet the needs of our culturally rich and diverse student population.

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

Ulises M. Ricoy, PhD, Chair 747.2223 uricoy@nnmc.edu
Biology, Chemistry and Environmental Science

Pedro Chavarria, PhD 747.2211 pedro.chavarria@nnmc.edu
Environmental Science

Joaquin Gallegos, MS 747.5480 joaquin.gallegos@nnmc.edu
Environmental Science

Mario Izaguirre-Sierra, PhD 747.5474 mario.izaguirre@nnmc.edu
Biology

Brenda Linnell, PhD 747.2248 bmlinnell@nnmc.edu
Chemistry

Travis R. Robbins, PhD 747.2212 travis.robbins@nnmc.edu
Biology

Anthony Sena, PhD 747.2291 asena@nnmc.edu
Biology/Biomedical Science
Bachelor of Science
BIOLOGY

This program prepares you to pursue a graduate degree in biology or to go on to professional schools in the health sciences. Training in biology also prepares you for a wide variety of career choices, including careers in research in academic, government, and private research laboratories, science teaching, positions in the biomedical, biotechnology, and pharmaceutical industries, and other related fields. While many positions are open to those holding a BS degree, some may only be open to those holding advanced graduate degrees.

Matriculation into this program is dependent upon:
1) your having been granted final regular admission to Northern;
2) your having a cumulative grade point average of at least 2.50 in all coursework attempted at Northern and/or other institutions;
3) your having completed 48 credits of college-level work, including the following required courses: BIOL 110/L, BIOL 201/L, BIOL 202/L, BIOL 203/L, and BIOL 204/L, CHEM 121/L, CHEM 122/L, and MATH 150; and
4) submission of a personal statement to the program director in which you outline your interest in biology and your career goals.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Courses listed under each area are specific requirements for the BS in Biology that also fulfill the requirements for General Education. See pages 26-29 in the Course Catalog for additional courses to meet the required credits in each area.

Area I. Communications (9 cr)
  ENG 111 English Composition I (3)
  SPCH 130 Public Speaking (3)

Area II. Mathematics (3 cr)
  MATH 150 College Algebra (3)

Area III. Laboratory Sciences (8 cr)
  BIOL 110/L Current Topics in Biology with lab (4)
  CHEM 110/L Introduction to Chemistry with lab (4)

Area IV. Social/Behavioral Sciences (6-9 cr)

Area V. Humanities and Fine Arts (6-9 cr)
  PHIL 220 Ethics (3)
* You must complete at least 15 credits between areas IV and V, Social/Behavioral Science and Humanities/Fine Arts, maintaining at least two disciplines in each area.

Area VI. First Year Experience (3 cr)
  FYE 101 First Year Experience (3)
PROGRAM REQUIREMENTS (86 CR)

- Biology Core Curriculum (20 cr)
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 201/L</td>
<td>Introduction to Molecular and Cell Biology with Lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 202/L</td>
<td>Principles of Genetics with Lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 203/L</td>
<td>Ecology and Evolution with Lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 204/L</td>
<td>Plant and Animal Form and Function with Lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 329</td>
<td>Cellular and Molecular Biology</td>
<td></td>
</tr>
</tbody>
</table>

- Seminar and Research Experience (7 cr)
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 392</td>
<td>Undergraduate Research Experience (3)</td>
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<tr>
<td>BIOL 472</td>
<td>Undergraduate Seminar in Biology (1)</td>
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<tr>
<td>BIOL 492</td>
<td>Biology Capstone Project (3)</td>
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</table>

- Supportive Courses in Math, Chemistry, and Physics (35 cr)
  
  **Mathematics (11 cr)**
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 145</td>
<td>Introduction to Probability and Statistics (3)</td>
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<tr>
<td>MATH 155</td>
<td>Trigonometry and Pre-Calculus (4)</td>
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</tr>
<tr>
<td>MATH 162</td>
<td>Calculus I (4)</td>
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</tbody>
</table>

  **Chemistry (16 cr)**
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 121/L</td>
<td>General Chemistry I with lab (4)</td>
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</tr>
<tr>
<td>CHEM 122/L</td>
<td>General Chemistry II with lab (4)</td>
<td></td>
</tr>
<tr>
<td>CHEM 301/L</td>
<td>Organic Chemistry I with lab (4)</td>
<td></td>
</tr>
<tr>
<td>CHEM 421/L</td>
<td>Biochemistry with lab (4)</td>
<td></td>
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</tbody>
</table>

  **Physics (8 cr)**
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 121/L</td>
<td>Applied Physics I with lab (4)</td>
<td></td>
</tr>
<tr>
<td>PHYS 122/L</td>
<td>Applied Physics II with lab (4)</td>
<td></td>
</tr>
</tbody>
</table>

- Additional Program Requirements (24)
  
  The remaining 24 credit hours MUST be upper division (300-400). Please seek departmental advisement to tailor your course selections to your individual career objectives. The following courses are suggestions from each discipline. Note: Course selection must be approved by BIOL program advisor and Chair of the department.

  **Suggested Areas of Concentration:**

  **Cellular and Molecular Biology**
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 410</td>
<td>Bioinformatics (3)</td>
<td></td>
</tr>
<tr>
<td>BIOL 412/L</td>
<td>Developmental Biology with lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 416/L</td>
<td>Cells and Tissues with lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 425</td>
<td>Molecular Genetics (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 426/L</td>
<td>Neurobiology with lab (4)</td>
<td></td>
</tr>
<tr>
<td>BIOL 431</td>
<td>Drugs and Their Actions (3)</td>
<td></td>
</tr>
<tr>
<td>BIOL 456</td>
<td>Immunology (4)</td>
<td></td>
</tr>
<tr>
<td>MATH 345</td>
<td>Elements of Mathematical Statistics and Probability Theory (3)</td>
<td></td>
</tr>
</tbody>
</table>
Ecology and Evolution

- **BIOL 371/L** Invertebrate Biology with lab (4)
- **BIOL 360/L** Plant Biology with lab (4)
- **BIOL 386** Vertebrate Biology (4)
- **BIOL 406** Stream Ecology and Field Methods (4)
- **BIOL 451/L** General Ecology with lab (4)
- **ES 467** Evolutionary Plant Ecology (3)
- **ES 308** Invasive Species (3)
- **ES 420** Ecology and Hydrology of the Southwest (3)
- **MATH 345** Elements of Mathematical Statistics and Probability Theory (3)

**Supportive Courses in Math, Chemistry, and Physics**

- **CHEM 302/L** Organic Chemistry II with lab (4)
- **CHEM 311** Physical Chemistry (3)
- **PHYS 302** Optics (3)
- **PHYS 330** Introduction to Modern Physics (3)
- **PHYS 331** Thermodynamics and Statistical Mechanics (3)
- **PHYS 405** Electricity and Magnetism (3)
- **MATH 345** Elements of Mathematical Statistics and Probability Theory (3)

**TOTAL CREDITS: 124**

**Associate of Science**

**BIOLOGY**

The associate of science in biology program prepares you to pursue a baccalaureate degree in biology for ecology, wildlife, molecular and pre-professional medical studies. While some positions are open to holders of the associate degree, most of the opportunities exist at the bachelor, master, and doctoral levels.

**GENERAL EDUCATION (38 CR) SEE PAGES 26-29**

Courses listed under each area are specific requirements for the AS in Biology that also fulfill the requirements for General Education. See pages 26-29 in the Course Catalog for additional courses to meet the required credits in each area.

**Area I. Communications (9 cr)**

- **ENG 111** English Composition I (3)
- **SPCH 130** Public Speaking (3)

**Area II. Mathematics (3 cr)**

- **MATH 150** College Algebra (3)

**Area III. Laboratory Sciences (8 cr)**

- **BIOL 110/L** Current Topics in Biology with lab (4)
- **CHEM 110/L** Introduction to Chemistry with lab (4)
Area IV. Social/Behavioral Sciences (6-9 cr)*

Area V. Humanities and Fine Arts (6-9 cr)*

PHIL 220 Ethics (3)

* You must complete at least 15 credits between areas IV and V, Social/Behavioral Science and Humanities/Fine Arts, maintaining at least two disciplines in each area.

Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (24 CR)

BIOL 201/L Introduction to Molecular and Cell Biology with Lab (4)
BIOL 202/L Principles of Genetics with Lab (4)
BIOL 203/L Ecology and Evolution with Lab (4)
BIOL 204/L Plant and Animal Form and Function with Lab (4)
CHEM 121/L General Chemistry I with lab (4)
CHEM 122/L General Chemistry II with lab (4)

TOTAL CREDITS: 62

Associate of Applied Science
CHEMISTRY

This program provides you with the concepts and practical skills needed for employment as a chemical technician. It is designed to complement training for full-time employment or for students seeking such employment. You may use this program in planning to transfer to related academic programs.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29

Courses listed under each area are specific requirements for the AAS in Chemistry that also fulfill the requirements for General Education. See pages 26-29 in the Course Catalog for additional courses to meet the required credits in each area.

Area I. Communications (9 cr)

ENG 111 English Composition I (3)
SPCH 130 Public Speaking (3)

Area II. Mathematics (3 cr)

MATH 150 College Algebra (3)

Area III. Laboratory Sciences (8 cr)

CHEM 110/L Introduction to Chemistry with lab (4)

BIOL 110/L Current Topics in Biology with lab (4)

or

ES 112/L Intro to Environmental Science with lab (4)
Area IV. Social/Behavioral Sciences (6-9 cr)*

Area V. Humanities and Fine Arts (6-9 cr)*

PHIL 220 Ethics (3)

* You must complete at least 15 credits between areas IV and V, Social/Behavioral Science and Humanities/Fine Arts, maintaining at least two disciplines in each area.

Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (24 CR)

CHEM 121/L General Chemistry I with lab (4)
CHEM 122/L General Chemistry II with lab (4)
CHEM 210/L Integrated Organic and Biochemistry with lab (4)
CHEM 301/L Organic Chemistry I with lab (4)
CHEM 302/L Organic Chemistry II with lab (4)
CHEM 421/L Biochemistry with lab (4)

TOTAL CREDITS: 62

Bachelor of Science
ENVIRONMENTAL SCIENCE

GENERAL EDUCATION (38 CR) SEE PAGES 26-29

Area I. Communications (9 cr)

ENG 111 English Composition I (3)
ENG 116 Technical Writing (3)
SPCH 130 Public Speaking (3)

Area II. Mathematics (3 cr)

MATH 150 College Algebra (3)

Area III. Laboratory Science (8 cr)

ES 112/L Introduction to Environmental Science with Lab (4)
CHEM 110/L Introduction to Chemistry with Lab (4)

Area IV. Social/Behavioral Sciences (6 cr)

Area V. Humanities and Fine Arts (9 cr)

PHIL 220 Ethics (3)
Second Language (3)

Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)
PROGRAM REQUIREMENTS (85 CR)

■ Required Science Courses (34 cr)
  MATH 145 Introduction to Probability and Statistics (3)
  MATH 155 Trigonometry (3)
  MATH 162 Calculus I (4)
  CHEM 121/L General Chemistry I with lab (4)
  CHEM 122/L General Chemistry II with lab (4)
  BIOL 201/L Principles of Molecular and Cell Biology (4)
  BIOL 203/L Ecology and Evolution (4)
  BIOL 204/L Plant and Animal Form and Function (4)

  ES 201/L Environmental Physical Chemical Processes (4)
  or
  BIOL 202/L Principles of Genetics with lab (4)

■ Additional Program Requirements (51 cr)
  Required ES Courses (29 cr)
    ES 103 Introduction to Natural Resources (3)
    ES 203 Introduction to GIS/GPS and Cartography (3)
    ES 225 Principles of Agricultural Ecology (3)
    ES 317 Rangeland Management (3)
    ES 318 Silviculture (WIC) (3)
    ES 319 Principles of Wildlife Science and Management (3)
    ES 336/L Environmental Sampling and Instrumentation (4)
    ES 338 Environmental Law and Regulations (3)
    ES 380 Undergraduate Research Experience (3)
    ES 480 Senior Capstone – Field Experience (3)
    BIOL 472 Seminar (1)

The remaining 22 credit hours MUST be upper division ES courses (300-400).
Please seek departmental advisement to tailor your course selections to your individual career objectives. Note: Course selection must be approved by ES program advisor and Chair of the department.

TOTAL CREDITS: 123
**Associate of Science**  
**ENVIRONMENTAL SCIENCE**

This program is designed to provide the technical skills needed to gather, record, and analyze critical environmental data to perform health risk assessments and evaluations.

**GENERAL EDUCATION (38 CR) SEE PAGES 26-29**

**Area I. Communications (9 cr)**
- **ENG 111** English Composition I (3)
- **ENG 116** Technical Writing (3)
- **SPCH 130** Public Speaking (3)

**Areas II and III. Mathematics/Laboratory Science (11 cr)**
- **CHEM 110/L** Introduction to Chemistry (4)
- **ES 112/L** Introduction to Environmental Science with lab (4)
- **MATH 150** College Algebra (3)

**Area IV. Social/Behavioral Sciences (6 cr)**

**Area V. Humanities and Fine Arts (9 cr)**
- **PHIL 220** Ethics (3)
- Second Language (3)

**Area VI. First Year Experience (3 cr)**

**PROGRAM REQUIREMENTS (25 CR)**
- **BIOL 201/L** Principles of Molecular and Cell Biology (4)
- **BIOL 203/L** Ecology and Evolution (4)
- **CHEM 121/L** General Chemistry I with lab (4)
- **ES 103** Introduction to Natural Resources (3)
- **ES 201/L** Environmental Physical and Chemical Processes (4)
- **ES 203** Introduction to GIS/GPS (3)
- **ES 225** Principles of Agricultural Ecology (3)

**TOTAL CREDITS: 63**
### Associate of Applied Science

#### RADIATION PROTECTION

The Radiation Protection program is designed to prepare for a career as a Health Protection Technician in environmental programs and scientific laboratories. The program provides the technical skills needed to conduct radiation surveys, interpret survey data, assess personnel protection requirements, and instruct personnel in appropriate protective procedures and environmental clean-up.

#### GENERAL EDUCATION (48 CR) SEE PAGES 26-29

**Area I. Communications (6 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 116</td>
<td>Technical Writing</td>
<td>3</td>
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</table>

**Areas II and III. Mathematics/Laboratory Science (33 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 201/L</td>
<td>Principles of Molecular and Cell Biology with lab</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 202/L</td>
<td>Genetics with lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 121/L</td>
<td>General Chemistry I with lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 122/L</td>
<td>General Chemistry II with lab</td>
<td>4</td>
</tr>
<tr>
<td>BCIS 102</td>
<td>Computer Literacy</td>
<td>3</td>
</tr>
<tr>
<td>MATH 130</td>
<td>Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 145</td>
<td>Introduction to Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 121/L</td>
<td>Applied Physics I with lab</td>
<td>4</td>
</tr>
</tbody>
</table>

**Area IV. Social/Behavioral Sciences (3 cr)**

**Area V. Humanities and Fine Arts (3 cr)**

**Area VI. First Year Experience (3 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FYE 101</td>
<td>First Year Experience</td>
<td>3</td>
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**PROGRAM REQUIREMENTS (19 CR)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDPR 233</td>
<td>Radiation Biology</td>
<td>3</td>
</tr>
<tr>
<td>RDPR 234</td>
<td>Introduction to Radiation Science &amp; Technology</td>
<td>4</td>
</tr>
<tr>
<td>RDPR 238</td>
<td>Introduction to Radiation Protection</td>
<td>4</td>
</tr>
<tr>
<td>RDPR 242</td>
<td>Problems in Radiation Protection</td>
<td>4</td>
</tr>
<tr>
<td>RDPR 243</td>
<td>Practical Radiological Programs and Sampling Methods</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 67**
Technical Certificate
RADIATION CONTROL TECHNICIAN

This certificate is designed to provide entry-level skills required for employment in the nuclear industry. This program provides the technical skills to conduct radiation surveys, interpret survey data, and assess personnel protection requirements for the protection of human health.

Qualified radiation protection technicians work at Department of Energy (DOE) National Laboratories, medical facilities, research laboratories, nuclear power plants under the direction of the Nuclear Regulatory Commission (NRC) medical facilities, and industries that work with radioactive material. In addition to specialized classroom and laboratory instruction, students are required to complete supervised field experience.

GENERAL EDUCATION (7 CR)

Area I. Communications (3 cr)
   ENG 111 English Composition (3)

Area II. Mathematics (4 cr)
   MATH 130 Intermediate Algebra (4)

PROGRAM REQUIREMENTS (25 CR)
   ES 134 OSHA Health and Safety (3)
   RDPR 233 Radiation Biology (3)
   RDPR 234 Introduction to Radiation Science & Technology (4)
   RDPR 238 Introduction to Radiation Protection (4)
   RDPR 242 Problems in Radiation Protection (4)
   RDPR 243 Practical Radiological Programs and Sampling Methods (4)
   RDPR 250 Supervised Field Experience (3)

TOTAL CREDITS: 32
Associate of Applied Science  
WILDLAND FIRE SCIENCE

This program provides training for entry and advanced level careers in Wildland Fire Management. This program provides the technical skills required in the areas of fire suppression, safety, decision-making, communications, business management, fire behavior, fire line tactics, water hydraulics, and chain saw operation.

Additional skills are designed to produce efficiency in performance of single operations resource positions while on and off duty times, before and during assignment. The degree is targeted towards operational Incident Command positions, but is also applicable to logistic and financial/administration Incident Command positions. All of the Wildland Fire courses meet National Wildfire Coordination Group standards.

GENERAL EDUCATION (35 CR) SEE PAGES 26-29

Area I. Communications (9 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I (3)</td>
<td></td>
</tr>
<tr>
<td>ENG 116</td>
<td>Technical Writing (3)</td>
<td></td>
</tr>
<tr>
<td>SPCH 130</td>
<td>Public Speaking (3)</td>
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</table>

Areas II and III. Mathematics/Laboratory Science (11 cr)

<table>
<thead>
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<th>Course</th>
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<tr>
<td>ES 112</td>
<td>Introduction to Environmental Science (3)</td>
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<tr>
<td>ES 112L</td>
<td>Introduction to Environmental Science Lab (1)</td>
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</tr>
<tr>
<td>BCIS 102</td>
<td>Computer Literacy (3)</td>
<td></td>
</tr>
<tr>
<td>MATH 130</td>
<td>Intermediate Algebra (4)</td>
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</table>

Area IV. Social/Behavioral Sciences (6 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY 105</td>
<td>General Psychology   (3)</td>
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Area V. Humanities and Fine Arts (6 cr)

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PHIL 220</td>
<td>Ethics (3)</td>
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</table>

Area VI. First Year Experience (3 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FYE 101</td>
<td>First Year Experience (3)</td>
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</table>

PROGRAM REQUIREMENTS (32.5 CR)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ES 137</td>
<td>OSHA Hazmat First Responder (1.5)</td>
<td></td>
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<tr>
<td>ES 203</td>
<td>Introduction to GIS/GPS &amp; Cartography (2)</td>
<td></td>
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<tr>
<td>ES 103</td>
<td>Introduction to Natural Resource Management (3)</td>
<td></td>
</tr>
<tr>
<td>ES 120</td>
<td>Forest and Range Ecology (3)</td>
<td></td>
</tr>
<tr>
<td>WFS 130</td>
<td>Basic Wildland Fire Fighter Training (includes S-190 I-100 and L-180) (3)</td>
<td></td>
</tr>
<tr>
<td>WFS 260</td>
<td>Incident Business Management (1)</td>
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<tr>
<td>WFS 270</td>
<td>Basic Air Operations (1)</td>
<td></td>
</tr>
<tr>
<td>WFS 134</td>
<td>Lookouts, Communication, Escape Routes &amp; Safety Zones (1)</td>
<td></td>
</tr>
<tr>
<td>WFS 131</td>
<td>Advanced Fire Fighter Training (Includes S-131) (1)</td>
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</tr>
<tr>
<td>WFS 280</td>
<td>Followership to Leadership (L-280) (1.5)</td>
<td></td>
</tr>
</tbody>
</table>
Certificate
WILDLAND FIRE SCIENCE

This program provides training for entry-level employment in Wildland Fire Management. It provides entry-level fire suppression and management skills. The student develops efficiency and performance in safety, decision-making, communications, business management, fire line tactics, water hydraulics, chainsaw operation, and recognition of environmental factors affecting start and spread of wildland fires.

The certificate is targeted towards operational Incident Command positions. Completion of this certificate provides the student with the background needed to pursue an Associate Degree in Wildland Fire Science.

GENERAL EDUCATION (8 CR)

Area I. Communications (4 cr)
   ENG 109N Basic Composition II (4)

Area II. Mathematics (4 cr)
   MATH 102N Basic Algebra (4)
   or
   MATH 103N (4) or higher level math.

PROGRAM REQUIREMENTS (21.75 CR)

ES 137 OSHA Hazmat First Responder (1.5)
WFS 130 Basic Wildland Fire Fighter Training
(includes S-190, I-100 and L-180) (3)
WFS 260 Incident Business Management (1)
WFS 270 Basic Air Operations (1)
WFS 134 Lookouts, Communications, Escape Routes & Escape Zones (1)
WFS 131 Advanced Fire Fighter Training (S-131) (.5)
WFS 280 Followership to Leadership (1.5)
WFS 215 Fire Operations in the Wildland/Urban Interface (3)
WFS 290 Fundamentals of Fire Behavior (2)
WFS 211 Portable Pumps and Water Use (2)

TOTAL CREDITS: 67.5
WFS 212  Chain Saws (3)
WFS 230  Crew Boss (2.25)

TOTAL CREDITS: 29.75

VITICULTURE and ENOLOGY

The Viticulture and Enology Science and Technology Alliance (VESTA), a National Center of Excellence funded by the National Science Foundation, offers convenient online education programs in viticulture and enology. VESTA is made up of partnerships with educational institutions across the country bringing together the best information and resources of the grape and wine industry.

- Certificate and AAS program options
- Convenient online courses
- Hands-on learning opportunities in every class
- Job postings

The Sostenga Center at Northern New Mexico College is a partner institution with VESTA creating outstanding opportunities for northern New Mexico residents to access the National network for education, hands-on learning, and job placement in grape production and wine making.

For more information about VESTA national programs and resources visit http://www.vesta-usa.org/ or call 417-837-2513.

Associates of Applied Science
VITICULTURE

The Associate of Applied Science in Viticulture provides the skills for working in a commercial vineyard and provides opportunities for students to participate in hands-on field experiences through partnerships developed in northern and north central New Mexico, thus providing students with laboratory experience in their location. This certificate is taught with the Viticulture Enology Science and Technology Alliance (VESTA) program.

GENERAL EDUCATION (32 CR)

Area I: Communications (9 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I (3)</td>
<td></td>
</tr>
<tr>
<td>ENG 116</td>
<td>Technical Writing (3)</td>
<td></td>
</tr>
<tr>
<td>SPCH 130</td>
<td>Public Speaking (3)</td>
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</table>

Area II and Area III: Mathematics/Laboratory Science (14 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BCIS 102</td>
<td>Computer Literacy (3)</td>
<td></td>
</tr>
<tr>
<td>MATH 132</td>
<td>Applied Trades Math II or higher (3)</td>
<td></td>
</tr>
</tbody>
</table>
CHEM 121/L General Chemistry with lab (4)
BIOL 201/L Introduction to Molecular and Cell Biology with lab (4)
Prerequisite: CHEM 121/L

Area IV: Social/Behavioral Sciences (3 cr)

Area V: Humanities and Fine Arts (3 cr)

Area VI. First Year Experience (3 cr)
FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (27 CR)
VIN 105 Molecular Principles in Grape and Wine (4)
VIN 111 Introduction to Viticulture and Vineyard Management (3)
VIN 112 Botanical Viticulture (4)
VIN 113 Winter Viticulture Technology (2)
VIN 114 Spring Viticulture Technology (2)
VIN 115 Summer/Fall Viticulture Technology (2)
VIN 211 Integrated Pest Management (2)
VIN 213 Regional Vineyard Management (2)
VIN 293 Soils for Viticulture (3)
VIN 146 Introduction to Enology (3)

TOTAL CREDITS: 59

Certificate
VITICULTURE

The Certificate in Viticulture provides the basic skills for working in a commercial vineyard and provides opportunities for students to participate in hands-on field experiences through partnerships developed with area vineyards and wineries, thus providing students with laboratory experience in their location. This certificate is taught with the Viticulture Enology Science and Technology Alliance (VESTA) program.

GENERAL EDUCATION (7 CR)

Area I: Communications (4 cr)
ENG 109N Basic Composition II (4)

Area II: Mathematics (3 cr)
MATH 104N Applied Trades Math (3)

PROGRAM REQUIREMENTS (19-20 CR)
VIN 111 Introduction to Viticulture and Vineyard Management (3)
VIN 113 Winter Viticulture Technology (2)
VIN 114 Spring Viticulture Technology (2)
VIN 115 Summer/Fall Viticulture Technology (2)
VIN 211 Integrated Pest Management (2)
VIN 213 Regional Vineyard Management (2)
VIN 293 Soils for Viticulture (3)

Choose one of the following (3-4)
VIN 146 Introduction to Enology (3)
BIO 134 General Botany (4)

TOTAL CREDITS: 26-27

Associates of Applied Science
ENOLOGY

The Associate of Applied Science in Enology provides the skills for working in a commercial personal winery and provides opportunities for students to participate in hands-on field experiences through partnerships developed in the northern and north central New Mexico wine industry and is designed to prepare individuals with the technical skills and ability to build expertise in this area. This AAS is taught with the Viticulture Enology Science and Technology Alliance (VESTA) program.

GENERAL EDUCATION (32 CR)

Area I: Communications (9 cr)
ENG 111 English Composition I (3)
ENG 116 Technical Writing (3)
SPCH 130 Public Speaking (3)

Area II and Area III: Mathematics/Laboratory Science (14 cr)
BCIS 102 Computer Literacy (3)
MATH 132 Applied Trades Math II or higher (3)
CHEM 121/L General Chemistry with lab (4)
BIOL 201/L Introduction to Molecular and Cell Biology with lab (4)
Prerequisite: CHEM 121/L

Area IV: Social/Behavioral Sciences (3 cr)

Area V: Humanities and Fine Arts (3 cr)

Area VI. First Year Experience (3 cr)
FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (28 CR)
VIN 105 Molecular Principles in Grape and Wine (4)
VIN 116 Introduction to Enology (3)
VIN 130 Intermediate Enology (3)
VIN 148 Winery Sanitation (3)
VIN 160 Winery Equipment Operation Introduction to Wine (2)
VIN 210 Microorganisms (2)
Certificate

ENOLOGY

The Certificate in Enology is designed to prepare individuals for positions within the New Mexico wine industry. This certificate is taught with the Viticulture Enology Science and Technology Alliance (VESTA) program.

GENERAL EDUCATION (7 CR)

Area I: Communications (4 cr)

  ENG 109N Basic Composition II (4)

Area II: Mathematics (3 cr)

  MATH 104N Applied Trades Math (3)

PROGRAM REQUIREMENTS (24 CR)

  VIN 116 Introduction to Enology (3)
  VIN 130 Intermediate Enology (3)
  VIN 148 Winery Sanitation (3)
  VIN 160 Winery Equipment Operation Introduction to Wine (2)
  VIN 210 Microorganisms (2)
  VIN 259 Cellar Operations Technology (2)
  VIN 266 Sensory Evaluation (3)
  VIN 268 Wine and Must Analysis (3)
  VIN 257 Fall Wine Production Technology (3)

TOTAL CREDITS: 31
Department of Math and Physical Sciences

The Department of Mathematics and Physical Sciences provides fundamental knowledge in mathematics engaging the student in problem solving, analytical and logical thinking through the basic method of inquiry. The department is committed to equipping students with the mathematical tools needed for its application to diverse fields.

Many of the courses in the associate programs offered by this department are designed to transfer to four-year programs. The Associate of Science degree in Science is specifically designed to represent the first two-years of a general four-year science program.

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

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Ana Vasilic, PhD  
Applied Mathematics  
747.2231  
ana.vasilic@nnmc.edu

Bachelor of Science
MATHEMATICS

ADMISSION REQUIREMENTS:

1) Completion of the General Education Common Core, plus an additional 13 credit hours which must include Calculus I
2) A cumulative GPA of at least 2.50.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
   Second Language (3)
Area VI. First Year Experience (3 cr)
   FYE  101  First Year Experience (3)
PROGRAM REQUIREMENTS (37 CR)

Required Supporting Courses in Physics and Chemistry (8 cr)

CHEM 121/L General Chemistry I with Lab (4) and
CHEM 122/L General Chemistry II with Lab (4) or

PHYS 121/L Applied Physics I with Lab (4) and
PHYS 122/L Applied Physics II with Lab (4) or

CHEM 121/L General Chemistry I with Lab (4) and
PHYS 121/L Applied Physics I with Lab (4)

Required supporting course in Computer Science (4 cr)
EECE 152L Computer Programming (4)

CORE CURRICULUM (25 CR)

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

MATH 375 Numerical Computing (3) (WIC) or
MATH 275 Intro to Numerical Computing (3)

MATH 314 Linear Algebra with Applications (3) or
MATH 294 Intro to Linear Algebra with Applications (3)

MATH 316 Applied Ordinary Differential Equations (3) or
MATH 296 Intro to Applied Ordinary Differential Equations (3)

MATH 401 Advanced Calculus I (4)

MAJOR (24 CR)

Applied Mathematics (21 cr)

MATH 311 Vector Analysis (3)
MATH 312 Partial Differential Equations for Engineering (3)
MATH 313 Complex Variables for Engineering (3)
MATH 327 Discrete Structures (3)
MATH 345 Elements of Applied Statistics and Probability Theory (3)
MATH 395 Practicum in Mathematics (3)
MATH 466 Mathematical Methods in Science and Engineering (3)
Choose one of the following (3):

- MATH 402 Advanced Calculus II (3)
- MATH 441 Probability (3)
- MATH 464 Applied Matrix Theory (3)

CONCENTRATIONS

Along with your major, you may complete a concentration if you wish. For the BS in Mathematics, we suggest one of the following four concentrations.

**General Engineering (20 cr)**
- ENGR 110 Introduction to Engineering (2)
- ME 160L Mechanical Engineering Design (3)
- ME 202 Engineering Statics (3)
- EECE 203L Circuit Analysis I (3)
- ME 301 Thermodynamics (3)
- ME 306 Dynamics (3)
- ME 317 Fluid Mechanics (3)

**Information Technology (18 cr)**
- EECE 132 Computer Networks I (3)
- EECE 231 Intermediate Programming (3)
- IT 250 Introduction to Databases (3)
- EECE 330 Computer Networks II (3)
- EECE 342 Wireless and Mobil Computing (3)
- EECE 440 Advanced Computer Networks (3)

**Chemistry (19 cr)**
- CHEM 121/L General Chemistry I with Lab (4) *
- CHEM 122/L General Chemistry II with Lab (4) *
- CHEM 301/L Organic Chemistry I with Lab (4)
- CHEM 302/L Organic Chemistry II with Lab (4)
- CHEM 311 Physical Chemistry (3)

*No course can count more than once toward a degree at Northern.

If you pursue this concentration, you will not have taken CHEM 121/L and 122/L as part of the “supporting courses” on page 114.

**Physics (20 cr)**
- PHYS 215/L Engineering Physics with Lab (4)
- PHYS 262/L General Physics with Lab (4)
- PHYS 331 Thermodynamics and Statistical Methods (3)
- PHYS 302 Optics (3)
- PHYS 330 Introduction to Modern Physics (3)
- PHYS 405 Electricity and Magnetism (3)

Should you choose not to pursue a concentration, you must complete enough approved upper-division (300 or above) math, chemistry, engineering, or physics courses in order to fulfill our requirement of at least 40 credits of upper-division coursework.
In order to fulfill the graduation requirement of 120 credits for the program, you will have to enroll in an additional 1-3 credits of approved electives depending on the concentration area that is chosen and 21 credits of electives if a concentration is not chosen.

Associate of Science
MATHEMATICS

GENERAL EDUCATION (38 CR) SEE PAGES 26-29.

Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
   MATH 150  College Algebra (3)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
Area VI. First Year Experience (3 cr)
   FYE 101  First Year Experience (3)

PROGRAM REQUIREMENTS (25 CR)
   MATH 145  Introduction to Probability and Statistics (3)
   MATH 155  Trigonometry and Pre-Calculus (4)
   MATH 162  Calculus I (4)
   MATH 163  Calculus II (4)
   MATH 264  Calculus III (4)
   MATH 294  Intro to Linear Algebra with Applications (3)
   MATH 296  Intro to Applied Ordinary Differential Equations (3)
   MATH 275  Intro to Numerical Computing (3)

TOTAL CREDITS: 63
College of
BUSINESS ADMINISTRATION

Dean: Lori Baca, D.B.A.
505.747.2186  LBaca@nnmc.edu

The Business Administration (BA) Department at Northern offers baccalaureate, associate and certificate programs which are designed to provide practice-oriented training and business skill development for students who aspire to a successful career in general management, accounting or project management. Currently two associate degrees and the bachelor degree with three concentrations are accredited by the Accreditation Council for Business Schools and Programs (ACBSP)—AAS in Office Administration and AA in Business Administration, and our BBA with concentrations in Accounting, Management and Project Management.

Other business-related certificate programs include: Administrative Assistant, Bookkeeper, and Entrepreneurship.

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor's degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

John Buksa, MBA, PMP  Project Management  747.5422 john.buksa@nnmc.edu
Betty Espinoza, AAS  Barbering/Cosmetology  747.5472 bettyespinoza@nnmc.edu
Jee Hwang, PhD  Economics/Finance  747.2181 jee.hwang@nnmc.edu
Karen Simpson, MBA  Management/Accounting  747.2187 ksimpson@nnmc.edu
Elaine Valdez, Cert.  Barbering/Cosmetology  747-5472 elainevaldez@nnmc.edu

BBA ADMISSION REQUIREMENTS

Admission into the BBA program at Northern can occur in one of two ways:

1. As an AABA graduate from Northern’s BA Department or from any ACBSP accredited college as long as the coursework at that college is equivalent to that of Northern’s AABA curriculum. A BA Department advisor can determine the equivalence and approve admission.

2. As an admitted student at Northern who has:

(a) completed at least 45 credit hours of the coursework from an accredited college including 35 credit hours of the General Education Common Core
(b) attained an overall 2.5 GPA in all college coursework
(c) completed satisfactorily 15 credit hours in the following courses or their equivalents at other colleges:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 145</td>
<td>Probability and Statistics or BA 205 Business Statistics</td>
<td></td>
</tr>
<tr>
<td>BA 220</td>
<td>Principles of Accounting I</td>
<td></td>
</tr>
</tbody>
</table>
To graduate with the degree of BBA, the student must meet the following requirements:

1. Completion of all admission requirements with a grade of “C” or better and an overall GPA of 2.5 and admission into the BBA program
2. Completion of all required coursework in one of the BBA majors with a grade “C” or better and an overall GPA of 2.5
3. Completion of at least 30 credit hours from the NNMC BA Department, 24 hours of which must be from upper division courses including BA 490 (Capstone)
4. Completion of 120 credits

Associate of Arts
BUSINESS ADMINISTRATION

The Associate of Arts Degree in Business Administration is an ACBSP accredited terminal degree for those graduates who intend to enter the workplace with a sound fundamental knowledge of economics, accounting, management, business technology and marketing. It is designed for students who intend to pursue a business career at the technical level. The AABA is a transfer degree program which can lead to a baccalaureate with two additional years of full-time study in the BA Department at NNMC.

GENERAL EDUCATION (38 CR) SEE PAGES 26-29

Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
Area VI. First Year Experience (3 cr)

BUSINESS CORE (24 CR)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 145</td>
<td>Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BA 205</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BA 240</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BA 221</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>BA 222</td>
<td>Accounting Principles II</td>
<td>3</td>
</tr>
<tr>
<td>BA 251</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>
Bachelor of
BUSINESS ADMINISTRATION (BBA)

The BBA degree is awarded to those students who satisfactorily complete all course work in one of three major fields of study—Management, Accounting, or Project Management. It is designed for students who intend to pursue a business career at the professional level.

ACCOUNTING Major

Coursework in this major is designed to prepare students for employment opportunities that exist in public accounting practice, business, government, and not for profit organizations. Course requirements include:

GENERAL EDUCATION (38 CR) SEE PAGES 26-29

Area I. Communications (9 cr)
Area II. Mathematics (3 cr)
Area III. Laboratory Sciences (8 cr)
Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
    Second Language (3)
Area VI. First Year Experience (3 cr)
    FYE  101  First Year Experience (3)

BUSINESS CORE (24 CR)

    MATH  145  Probability and Statistics (3)
    or
    BA  205  Business Statistics (3)
    BA  240  Principles of Management (3)
    BA  221  Accounting Principles I (3)
    BA  222  Accounting Principles II (3)
    BA  251  Principles of Marketing (3)
    BA  261  Business Technology (3)
    ECON 200  Macroeconomics (3)
    ECON 201  Microeconomics (3)
Common Degree Requirements (21 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 300</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BA 310</td>
<td>Principles of Finance</td>
<td>3</td>
</tr>
<tr>
<td>BA 313</td>
<td>Organizational Behavior (WIC)</td>
<td>3</td>
</tr>
<tr>
<td>BA 330</td>
<td>Principles of Project Management</td>
<td>3</td>
</tr>
<tr>
<td>BA 462</td>
<td>International Business &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>BA 485</td>
<td>Internship</td>
<td>6</td>
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Accounting Courses (24 cr)

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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BA 304</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BA 305</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BA 306</td>
<td>Intermediate Accounting III</td>
<td>3</td>
</tr>
<tr>
<td>BA 324</td>
<td>Federal Tax Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BA 352</td>
<td>Accounting Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>BA 405</td>
<td>Accounting for Not-For-Profit Organizations</td>
<td>3</td>
</tr>
<tr>
<td>BA 445</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BA 446</td>
<td>Audit Theory and Practice</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (13 cr)

Electives may be chosen from any NNMC College or department subject to advisor consultation. A minimum of one must be at 300 level or above.

TOTAL CREDITS: 120

MANAGEMENT Major

Coursework in this major is focused on more advanced management training in core business processes such as finance, human resources (HR) management, marketing, and corporate strategy. Course requirements include:

GENERAL EDUCATION (38 CR) SEE PAGES 26-29

Area I. Communications (9 cr)

Area II. Mathematics (3 cr)

Area III. Laboratory Sciences (8 cr)

Area IV. Social/Behavioral Sciences (6-9 cr)

Area V. Humanities and Fine Arts (6-9 cr)

Second Language (3)

Area VI. First Year Experience (3 cr)

FYE 101 First Year Experience (3)

BUSINESS CORE (24 CR)

MATH 145 Probability and Statistics (3) or BA 205 Business Statistics (3)
### Management Courses (18 cr)
- BA 353 Operations Management (3)
- BA 354 E-Commerce (3)
- or
- BA 350 Entrepreneurship
- BA 360 Human Resource Management (3)
- BA 408 Corporate Finance (3)
- BA 432 Strategic Management (3)
- BA 456 Marketing Management (3)

### Electives (19 cr)
Electives may be chosen from any NNMC College or department, subject to advisor consultation. One must be at 300 level or above.

### TOTAL CREDITS: 120

### PROJECT MANAGEMENT Major
This major is designed to meet the professional development needs of individual program and project responsibilities. Project management is applicable in a wide range of business activities as it involves the application of knowledge, skills, tools and techniques shaped by the specifications and requirements of a particular project.

### GENERAL EDUCATION (38 CR) SEE PAGES 26-29

- Area I. Communications (9 cr)
- Area II. Mathematics (3 cr)
- Area III. Laboratory Sciences (8 cr)
- Area IV. Social/Behavioral Sciences (6-9 cr)
Area V. Humanities and Fine Arts (6-9 cr)
- Second Language (3)

Area VI. First Year Experience (3 cr)
- FYE 101 First Year Experience (3)

BUSINESS CORE (24 CR)
- MATH 145 Probability and Statistics (3) or BA 205 Business Statistics (3)
- BA 240 Principles of Management (3)
- BA 221 Accounting Principles I (3)
- BA 222 Accounting Principles II (3)
- BA 251 Principles of Marketing (3)
- BA 261 Business Technology (3)
- ECON 200 Macroeconomics (3)
- ECON 201 Microeconomics (3)

COMMON DEGREE REQUIREMENTS (21 CR)
- BA 300 Business Law (3)
- BA 310 Principles of Finance (3)
- BA 313 Organizational Behavior (3) (WIC)
- BA 330 Principles of Project Management (3)
- BA 462 International Business & Management (3)
- BA 490 Business Administration Capstone (6)

PROJECT MANAGEMENT COURSES (18 CR)
- BA 334 Organizational Management (3)
- BA 335 Project Planning and Controls (3)
- BA 336 Project Communications and Stakeholder Management (3)
- BA 433 Project Quality and Risk Management (3)
- BA 437 Project Procurement and Contracts (3)
- BA 438 Project Leadership and HR Management (3)

ELECTIVES (19 CR)
Electives may be chosen from any NNMC College or Department, subject to advisor consultation. One must be at 300 level or above.

TOTAL CREDITS: 120
Associate of Applied Science
OFFICE ADMINISTRATION

This program will provide you with the course work necessary for employment above the entry level in secretarial fields in the private and governmental sectors.

GENERAL EDUCATION (22 CR)

Area I. Communications (6 cr)
- ENG 111 English Composition I (3)
  *Prerequisite: ENG 109N (3) or adequate score on the Course Placement Evaluation*
- SPCH 130 Public Speaking (3)
  *Prerequisite: ENG 109N (3) or adequate score on the Course Placement Evaluation*

Areas II and III. Mathematics/Computers/Laboratory Science (6 cr)
- BCIS 200 Business Computer Applications (3)
- OA 117 Business Math (3)

Area IV. Social/Behavioral Sciences (3 cr)
- Elective (3) Choose from Anthropology, Economics, Geography, Political Science, Psychology, or Sociology.
  *Prerequisite: ENG 109N (3) or adequate score on the Course Placement Evaluation*

Area V. Humanities and Fine Arts (3 cr)
- Second Language (3)

Area VI. First Year Experience (3 cr)
- FYE 101 First Year Experience (3)

HPER (1 cr)
- Elective (1)

PROGRAM REQUIREMENTS (40 CR)

Office Administration (13 cr)
- OA 115 Record/Information Management (3)
- OA 118 Professional Development (3)
- OA 135 Introduction to Accounting (3)
- OA 240 Introduction to Microsoft Project (3)
- OA 266 Microsoft Office Specialist Training (1)
  *Prerequisites: BCIS 249, BCIS 265, BCIS 225, BCIS 226*

Business Computing Information Systems (12 cr)
- BCIS 249 Microsoft Word (3)
- BCIS 265 Microsoft Access (3)
- BCIS 225 Excel (3)
- BCIS 226 PowerPoint (3)

Business Administration (15 cr)
Certificate
ADMINISTRATIVE ASSISTANT

This program provides you with the basic to advanced skills you need to work in the Windows environment. Our practical hands-on approach will provide you with the software skill set required for an administrative position.

GENERAL EDUCATION (7 CR)

Communications (4 cr)

ENG 109N Basic Composition II or higher-level course (4)

Mathematics (3 cr)

OA 117 Business Math (3)

PROGRAM REQUIREMENTS (26 CR)

BA 250 Business Communications (3)

BCIS 200 Business Computer Applications (3)

BCIS 225 Excel (3)

OA 118 Professional Development (3)

OA 236 Administrative Procedures (3)

OA 103 Introduction to Keyboarding (1)

OA 261 Desktop Publisher: MS Publisher (3)

OA 266 Microsoft Office Specialist Training (1)

TOTAL CREDITS: 33
Certificate
BOOKKEEPER

This program will prepare you for entry-level positions as a Bookkeeper. Typical work settings might include either working alone for a small business or working under the direction of a full-charge bookkeeper or accountant in a larger business or organization.

GENERAL EDUCATION (8 CR)

Communications (4 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 109N</td>
<td>Basic Composition II or higher-level course</td>
<td>4</td>
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</tbody>
</table>

Mathematics (3 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OA 117</td>
<td>Business Math</td>
<td>3</td>
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</tbody>
</table>

Health, Physical Education & Recreation (1 cr)

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
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PROGRAM REQUIREMENTS (15 CR)

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCIS 200</td>
<td>Business Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>BCIS 225</td>
<td>Excel</td>
<td>3</td>
</tr>
<tr>
<td>BA 221</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>BA 236</td>
<td>Computerized Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BA 250</td>
<td>Business Communications</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 23
Certificate
ENTREPRENEURSHIP

This program will prepare you to start your own entrepreneurial ventures, to work on management teams for entrepreneurial ventures, or to apply entrepreneurial skills to an existing business.

GENERAL EDUCATION (6 CR)

Communications (3 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I</td>
<td>3</td>
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</table>

Mathematics (3 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OA 117</td>
<td>Business Math</td>
<td>3</td>
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PROGRAM REQUIREMENTS (18 CR)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 128</td>
<td>Introduction to Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>BA 221</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>BA 214</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BA 241</td>
<td>Integrated Management</td>
<td>3</td>
</tr>
<tr>
<td>BA 254</td>
<td>Introduction to E-commerce</td>
<td>3</td>
</tr>
<tr>
<td>BA 236</td>
<td>Computerized Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 24

Certificate
HOSPITALITY, TOURISM, and RESTAURANT MANAGEMENT

This is a professional development program organized around the particular sectors of the hospitality industry: tourism, hospitality, and casino management in which you will improve your skills and knowledge for entry-level positions.

GENERAL EDUCATION (7 CR)

Communications (4 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 109N</td>
<td>Basic Composition II or higher-level course</td>
<td>4</td>
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</table>

Mathematics (3 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OA 117</td>
<td>Business Math</td>
<td>3</td>
</tr>
</tbody>
</table>

PROGRAM REQUIREMENTS (18 CR)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTRM 130</td>
<td>Introduction to Management in the Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>HTRM 133</td>
<td>Casino Management</td>
<td>3</td>
</tr>
<tr>
<td>HTRM 135</td>
<td>Hotel Management</td>
<td>3</td>
</tr>
<tr>
<td>HTRM 140</td>
<td>Food and Beverage Production Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HTRM 142</td>
<td>Resort and Casino Marketing and Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>HTRM 210</td>
<td>Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 25
BARBERING

The Barbering/Cosmetology program accepts students in the Fall and Spring terms only. Requirements include:

1. Final admission standing in the College as a degree-seeking student.
2. Applicants must achieve a Course Placement Score placing them into ENG 109N or show evidence that they have completed ENG 109N and have completed OA 117 Business Math.
3. After meeting criteria 1 and 2, arrange for an appointment with Cosmetology/Barbering for an admission interview prior to being accepted into the program. Call 505.747.2473 for this appointment.
4. Complete the registration process required by the New Mexico State Board of Barbers and Cosmetologists upon acceptance into the program.

The program provides cosmetologists/barbers with the courses required by the New Mexico Board of Barbers and Cosmetology for licensure (63 credit hours, 1600 clock hours for cosmetologists and 48 credit hours, 1200 clock hours for barbers). It also expands these skills with the addition of general education courses. These are not transfer programs.

Associate of Applied Science
BARBERING

This program provides you with the courses required by the New Mexico Board of Barbers and Cosmetology for licensure in this area (48 credit hours, 1200 clock hours) and expands those skills with the addition of general education courses. This is not a transfer program.

GENERAL EDUCATION (23 CR)

Area I. Communications (6 cr)

ENG 111 English Composition I (3)
Prerequisite: ENG 109N (3) or adequate score on Course Placement Evaluation
SPCH 130 Public Speaking (3)
Prerequisite: ENG 109N (3) or adequate score on Course Placement Evaluation

Areas II and III. Mathematics/Computers/Laboratory Sciences (6 cr)

BCIS 200 Business Computer Applications (3 cr)
OA 117 Business Math (3)

Area IV. Social/Behavioral Sciences (3 cr)

Elective (3) Choose from Anthropology, Economics, Geography, Political Science, Psychology, or Sociology.
Prerequisite: ENG 109N (3) or adequate score on Course Placement Evaluation

Area V. Humanities and Fine Arts (6 cr)

PHIL 220 Ethics (3)
Prerequisite: ENG 109N (3) or adequate score on the Course Placement Evaluation
Area VI. First Year Experience (3 cr)
   FYE  101  First Year Experience (3)

HPER (1 cr)
   Elective (1)

PROGRAM REQUIREMENTS (48 CR)
   Note: The prerequisite for any Barbering course is completion of ENG 108N or adequate scores on the Course Placement Evaluation
   BARB  110  Barbering I (17)
   BARB  120  Barbering II (16)
      Prerequisite: BARB 110
   BARB  210  Barbering III (15)
      Prerequisite: BARB 120

TOTAL CREDITS: 71

Certificate
BARBERING

This program provides you with the courses required by the New Mexico Board of Barbers and Cosmetology for licensure in this area (48 credit hours, 1200 clock hours). The program also expands those skills with the addition of General Education courses.

GENERAL EDUCATION (7 CR)

Communications (4)
   ENG  109N  Basic Composition II (4) or a higher level course

Mathematics (3)
   OA    117  Business Math (3)

PROGRAM REQUIREMENTS (48 CR)
   BARB  110  Barbering I (17)
   BARB  120  Barbering II (16)
   BARB  210  Barbering III (15)

TOTAL CREDITS: 55
COSMETOLOGY

The Cosmetology/Barbering program accepts students in the Fall and Spring terms only. Requirements include:

1. Final admission standing in the College as a degree-seeking student
2. Applicants must achieve a Course Placement Score placing them into ENG 109N or show evidence that they have completed ENG 109N, and have completed OA 117 Business Math.
3. After meeting criteria 1 and 2, arrange for an appointment with Cosmetology/Barbering for an admission interview prior to being accepted into the program. Call 505.747.2473 for this appointment.
4. Completion of the registration process required by the New Mexico State Board of Barbers and Cosmetologists upon acceptance into the program.

The program provides cosmetologists/barbers with the courses required by the New Mexico Board of Barbers and Cosmetology for licensure (63 credit hours, 1600 clock hours for cosmetologists and 48 credit hours, 1200 clock hours for barbers). It also expands these skills with the addition of general education courses. These are not transfer programs.

Associate of Applied Science
COSMETOLOGY

The program provides cosmetologists/barbers you with the courses required by the New Mexico Board of Barbers and Cosmetology for licensure (63 credit hours, 1600 clock hours for cosmetologists and 48 credit hours, 1200 clock hours for barbers). It also expands these skills with the addition of General Education courses. These are not transfer programs.

GENERAL EDUCATION (23 CR)

Area I. Communications (6 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 130</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

Prerequisite: ENG 109N (3) or adequate score on Course Placement Evaluation

Areas II and III. Mathematics/Computers/Laboratory Science (6)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BCIS 200</td>
<td>Business Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>OA 117</td>
<td>Business Math</td>
<td>3</td>
</tr>
</tbody>
</table>

Area IV. Social/Behavioral Sciences (3 cr)

Elective (3) Choose from Anthropology, Economics, Geography, Political Science, Psychology, or Sociology.

Prerequisite: ENG 109N (3) or adequate score on Course Placement Evaluation

Area V. Humanities and Fine Arts (6 cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 220</td>
<td>Ethics</td>
<td>3</td>
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</tbody>
</table>

Prerequisite: ENG 109N (3) or adequate score on the Course Placement Evaluation
Area VI. First Year Experience (3 cr)

  FYE  101  First Year Experience (3)

HPER (1 cr)

  Elective (1)

PROGRAM REQUIREMENTS (63 CR)

  COSM  110  Cosmetology I (17)
  COSM  120  Cosmetology II (16)
  COSM  210  Cosmetology III (15)
  COSM  220  Cosmetology IV (15)

TOTAL CREDITS: 86

Certificate

COSMETOLOGY

This program provides you with the courses required by the New Mexico Board of Barbers and Cosmetology for licensure in this area (63 credit hours, 1600 clock hours) and expands those skills with the addition of General Education courses.

GENERAL EDUCATION (7 CR)

Communications (4)

  ENG  109N  Basic Composition II (4) or a higher level course

Mathematics (3)

  OA   117  Business Math (3)

PROGRAM REQUIREMENTS (63 CR)

  COSM  110  Cosmetology I (17)
  COSM  120  Cosmetology II (16)
  COSM  210  Cosmetology III (15)
  COSM  220  Cosmetology IV (15)

TOTAL CREDITS: 70
College of EDUCATION

Dean: Joaquín Vilá, PhD
505.747.2194 joaquin.vila@nnmc.edu

The College of Education at Northern New Mexico College is regionally accredited and is committed to preparing high quality teachers and advancing the profession in partnership with educational institutions and communities in the region and beyond.

It offers Associate of Arts degrees in Early Childhood Education and Elementary Education, a Bachelor of Arts degree in Elementary Education, and endorsements in Bilingual Education and Teachers of English to Speakers of Other Languages (TE-SOL). Through the Alternative Licensure Program, the College of Education offers Post Baccalaureate certificates in Elementary Education, Secondary Education, and Special Education.

The College of Education at Northern is housed in the Richard C. Martinez, Teacher Education Center on the Española Campus. For general inquiries or applications, contact us at COE@nnmc.edu or (505) 747-5431.

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

Roseli Cavalcante, PhD 747.5463 rcavalcante@nnmc.edu
Education Faculty

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Field Experience & Placement Coordinator

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Administrative Assistant

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Coordinator, ALP Programs

Delmeria Martinez, BBA 747-5468 delmeriamtz@nnmc.edu
AVANCE Administrative Assistant
Admission to the Associate of Arts in Early Childhood Education and Elementary Education programs

Students must declare either an Associate of Arts in Early Childhood Education or an Associate of Arts in Elementary Education in order to be officially accepted into a program of study and advised accordingly by the College of Education.

### Associate of Arts

**EARLY CHILDHOOD EDUCATION**

The Early Childhood Education Program at Northern New Mexico College is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The program offers instruction and practical experience in working with young children and their families.

The course objectives are taken from the New Mexico State Department of Education’s Common Core Competencies for early childhood professionals. The core competencies are designed to describe what early childhood professionals should know and be able to do at the conclusion of this program.

Upon completion of this program students will be able to demonstrate the entry level Common Core Competencies for early childhood professionals and be prepared to teach students birth-grade three. This program also provides a seamless transition to Northern New Mexico College’s Bachelor Degree in Early Childhood Education.

### GENERAL EDUCATION (38 CR) SEE PAGES 26-29

**Area I. Communications (9 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Comp. I</td>
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<tr>
<td>ENG 112</td>
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<tr>
<td>SPCH 130</td>
<td>Public Speaking</td>
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**Area II. Mathematics (3 cr)**

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<tbody>
<tr>
<td>MATH 150</td>
<td>College Algebra</td>
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</tbody>
</table>

**Area III. Laboratory Sciences (8 cr)**

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<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110/L</td>
<td>Current Topics in Biology with lab</td>
<td>4</td>
</tr>
</tbody>
</table>

*Select one four credit hour elective course from the Area III list shown on page 27 in the NNMC 2015-16 Catalog.*

**Area IV. Social/Behavioral Sciences (6 cr)**

*Select two elective courses from the following disciplines: Government, Economics and/or Sociology as listed on page 27 in the NNMC 2015-16 Catalog.*

**Area V. Humanities (9 cr)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 105</td>
<td>Introduction to Art</td>
<td>3</td>
</tr>
</tbody>
</table>
History (3 cr)

Select one elective humanities course from the following: (3)

- HIST 161 History of the U.S. to 1877 (3)
- HIST 162 History of the U.S. from 1877 (3)
- HIST 101 Western Civilization I (3)
- HIST 102 Western Civilization II (3)
- HIST 260 History of New Mexico (3)

Area VI. First Year Experience (3 cr)

- FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (29 CR)

- ECE 202 Child Growth, Development and Learning (3)
- ECE 218 Health, Safety, and Nutrition (2)
- ECE 220 Professionalism (2)
- ECE 222 Introduction to Language, Literacy and Reading (3)
- ECE 225 Curriculum Development-Birth through Age 4 (3)
- ECE 226 Family and Community Collaboration (3)
- ECE 238 Lab-Practicum-Birth through Age 4 (2)

  Co-requisite ECE 225

- ECE 254 Curriculum Development & Implementation
  Age 3 through Grade 3 (3)

  Co-requisite ECE 254

- ECE 264 Lab-Practicum – Age 3 through Grade 3 (2)

  Co-requisite ECE 254

- ECE 285 Guiding Young Children (3)
- ECE 295 Assessment of Children and Evaluation of Programs (3)

TOTAL CREDITS: 67

Associate of Arts

ELEMENTARY EDUCATION

The Elementary Education program prepares educators to work in diverse educational settings in grades kindergarten through eight. The curriculum is aligned to the New Mexico State’s Transfer Module and Northern New Mexico College’s General Education Common Core Offerings. This program provides a seamless transition to Northern New Mexico College’s Bachelor Degree in Elementary Education.

GENERAL EDUCATION (38 CR)

Area I. Communications (9 cr)

- ENG 111 English Composition I (3)
- ENG 112 English Composition II (3)
- SPCH 130 Public Speaking (3)
Area II. Mathematics (3 cr)
    MATH 150  College Algebra (3)

Area III. Laboratory Sciences (8 cr)
    BIOL 110/L  Current Topics in Biology with lab (4)
    Select one four credit hour course from the Area III on page 27.

Area IV. Social/Behavioral Sciences (6 cr)
    Select two electives from the following disciplines: Government, Economics, and/or Sociology as listed on page 27.

Area V. Humanities (9 cr)
    Art (3 cr)
        Art 105  Introduction to Art (3)

    History (3 cr)
        Select one elective humanities course from the following (3)
        HIST 161  History of the U.S. to 1877 (3)
        HIST 162  History of the U.S. from 1877 (3)
        HUM 100  History and Culture of Northern New Mexico (3)
        HIST 101  Western Civilization I (3)
        HIST 102  Western Civilization II (3)

    Second Language (3 cr)
        Select one elective language course (3)

Area VI. First Year Experience (3 cr)
    FYE 101  First Year Experience (3)

SUPPORTIVE COURSES (6 CR)
    Select two elective humanities courses from the following:
    ART 208  History of NM Art & Arch. I
    PIS 200  Introduction to Pueblo Indian Studies (3)
    PIS 252  Pueblo Indian History (3)
    ENG 270  Children's Literature
    ENG 262  Literature of the Southwest
    PIS 265  Native American Literature I
    PIS 266  Native American Literature II
    HIST 220  Southwestern Women's History
    HIST 230  Chicano Experience in the US
    HIST 250  American Indian History
    CHIC 110  Introduction to Chicano Studies
    HSS 222  Teaching in Diverse Communities

PROGRAM REQUIREMENTS (16 CR)
    ED 201  Foundations of Education (3)
    ED 213  Field Experience I (1)
    ED 220  Educational Psychology (3)
Northern New Mexico College

ED  215  Lab II (1)
ED  216  Science and Math I (3)
ED  222  Math for Educators I (3)
ED  226  Strategies for Successful Classrooms (2)

TOTAL CREDITS: 60

Bachelor of Arts
ELEMENTARY EDUCATION

The Elementary Education program is designed so that teacher candidates may earn a baccalaureate degree in Elementary Education completely at Northern. Upon successful completion of the BA program and passing scores on the required State of New Mexico Teacher Assessments, teacher candidates will be eligible to apply for a teacher license through the New Mexico Public Education Department. This program meets the New Mexico Public Education Department’s (PED) Entry-Level Teacher Competencies and the Interstate New Mexico Teacher Assessment and Support Consortium (INTASC) Standards. This program prepares teacher candidates to work in diverse educational settings in grades kindergarten through eight. Teacher candidates can choose from one of the following three (3) majors:

  **Bilingual Education**—work effectively in the classroom with diverse bilingual students, and engage collaboratively with colleagues, families and communities for student success.

  **TESOL (Teaching English to Speakers of Other Languages)**—teach English to non-English speakers.

  **Humanities and Social Sciences**—specialize in some middle school content areas.

ADMISSION CRITERIA

1. **Admission to the College** in regular status (i.e., all transcripts have been received),
2. **Good standing at NNMC**,
3. **Completion of at least 60 credits of coursework** toward an Associate of Arts in Elementary Education,
4. **Cumulative GPA of at least 2.50**,
5. **Passing score on the Essential Academic Skills (I, II, III) Assessment** required by the State of New Mexico. This assessment should be passed in the last semester of A.A. in Elementary Education course work

APPLICATION PROCESS

1. **Students must declare a Bachelor of Arts in Education** to be officially accepted into a program of study and advised accordingly by the College of Education.
2. ** Completed BA Program application**: a) obtained on www.nnmc.edu website, or at COE Administrative Office, Teacher Education Center, Room 201.
3. **Letter of Intent**: a one page typed letter stating a) your reasons for wanting to become a teacher, b) experience, and c) personal strength,
4. **Personal Philosophy of Education Statement**: a one-page statement that describes your beliefs about a) education, b) learning, and c) working with students,
5. **Proof of a passing score:** on the Essential Academic Skills (I, II, III) Assessment required by the State of New Mexico,
6. **Signed Assurance form:** a) obtained at www.nnmc.edu, or at COE Administrative Office, Teacher Education Center, Room 201,
7. **Copies of all college transcripts,**
8. **Completed application materials will be reviewed** by the College of Education and teacher candidates will be advised accordingly. An interview will be required.

**TRANSFER STUDENTS**

Applicants who transfer from other institutions must have been granted admission in regular status (i.e., all transcripts have been received) prior to applying to the BA Program.

**TRANSFER CREDITS**

Up to 12 credits of professional preparation coursework will be considered on a case-by-case basis.

**PERSONAL INTERVIEW**

Once your application materials are received and prior to acceptance into the BA Program, you will be interviewed by the College of Education Interview Committee.

**NMTA TESTS**

Teacher Candidates must provide proof of passing all of the required State of New Mexico teacher assessments before enrolling in ED 479 Student Teaching.

**ASSESSMENT OF CANDIDATE LEARNING**

Teacher candidates must maintain a specific GPA determined by the College of Education to remain in good standing in the program. In addition, your progress will be evaluated by: 1) providing proof of passing all of the required State of New Mexico teacher assessments, 2) an entry-level teacher, competency-based collection of artifacts; and 3) practicum and student teaching observations and self-assessments.

Courses in which the teacher candidates earns a grade of C- and below do not count towards graduation or certification and do not meet criteria for satisfying prerequisites.

**GENERAL EDUCATION (41 CR)**

**Area I. Communications (9 cr)**

- ENG 111 English Composition I (3)
- ENG 112 English Composition II (3)
- SPCH 130 Public Speaking (3)

**Area II: Mathematics (3 cr)**

- MATH 150 College Algebra (3)

**Area III: Laboratory Sciences (8 cr)**

- BIOL 110/L Current Topics in Biology with lab (4)

*Select one four credit elective course from the Area III list shown on page 27 in the 2015-16 Catalog.*
Area IV: Social/Behavioral Sciences (9 cr)
Select three elective courses from the following disciplines: Government, Economics and/or Sociology as listed on page 27 in the 2015-16 Catalog.

Area V: Humanities (9 cr)
Art (3 cr)
Art 105 Introduction to Art (3)

History (3 cr)
Select one elective course from the following (3)
HIST 161 History of the U.S. to 1877 (3)
HIST 162 History of the U.S. from 1877 (3)
HIST 101 Western Civilization I (3)
HIST 102 Western Civilization II (3)
HIST 260 History of New Mexico (3)

Second Language (3 cr)
Select one elective language course (3)

Area VI. First Year Experience (3cr)
FYE 101 First Year Experience (3)

SUPPORTIVE COURSES (13-14 CR)

Area II: Mathematics (3-4)
Select one of the following:
MATH 145 Introduction to Probability and Statistics (3)
MATH 155 Trigonometry and Pre-Calculus (4)
MATH 162 Calculus I (4)

Area III: Laboratory Sciences (4)
Select one four credit hour elective course from the Area III list shown on page 27 in the NNMC 2015-16 Catalog

Area V: Humanities (6)
Select two humanities courses from the following:
ART 208 History of New Mexico Art & Architecture I
PIS 200 Introduction to Pueblo Indian Studies (3)
PIS 252 Pueblo Indian History (3)
ENG 270 Children’s Literature
ENG 262 Literature of the Southwest
PIS 265 Native American Literature I
PIS 266 Native American Literature II
HIST 220 Southwestern Women’s History
HIST 230 Chicano Experience in the US
HIST 250 American Indian History
CHIC 110 Introduction to Chicano Studies
HSS 222 Teaching in Diverse Communities
PROFESSIONAL PREPARATION REQUIREMENTS (46-48 CR)

Introductory Block

ED 201 Foundations of Education (3)
ED 213 Lab I (1)
ED 220 Educational Psychology (3)
ED 215 Lab II (1)
ED 226 Strategies for Successful Classrooms (2)
ED 450 Pedagogy and Learning (3) (WIC)

Literacy and Language Arts Block

ED 410 Teaching and Diagnosis of Reading (3)
ED 411 Lab III (1)
ED 460 Teaching Reading and Writing (Elem.) (3)

Math and Science Block

ED 216 Science & Math I (3)
ED 222 Math for Educators I (3)

Exceptionalities, and Assessment Block

ED/SPED 475 Curriculum Methods & Materials for Special Education (3)
ED 495 Assessment and Evaluation of Student Learning (3)

Capstone

ED 479 Student Teaching (12)
ED 480 Student Teaching Seminar (1)
ED Select one 400 level ED course (3)

MAJOR REQUIREMENTS
Choose one of the following majors: (24-30 CR)

Bilingual Education (24 cr)

SPAN 101 Spanish I*
SPAN 102 Spanish II (prerequisite SPAN 101)*
EDBE 403 Foundations of Bilingual/ESL Multicultural Education (3)
EDBE 305 Spanish Literacy for Bilingual Education (3)**
EDBE 306 Spanish for the Bilingual Classroom (3)**
EDBE 406 Methods and Materials of Teaching Bilingual/ESL (3)
EDBE 412 Formal/Informal Assessments (3)
EDBE 416 Second Language Acquisition (3)
EDBE 481 Linguistics and Phonetics for the Bilingual Teacher (3)**
EDBE 482 Spanish Language and Folklore of New Mexico for the Bilingual Teacher (3) *

*SPAN 101/102 or 6 SPAN from CLEP Testing are prerequisites all EDBE Courses.
**Courses taught in Spanish.
TESOL (Teaching English to Speakers of Other Languages) (24 cr)
  EDTE 403  Foundations of Bilingual/ESL Multicultural Education (3)
  EDTE 406  Methods and Material of Teaching Bilingual/ESL (3)
  EDTE 408  Approaches to Teaching English Literacy Skills (3)
  EDTE 412  Formal/Informal Assessment (3)
  EDTE 414  Introduction to Linguistics (3)
  EDTE 416  Second Language Acquisition (3)
Language electives (6)

Humanities and Social Sciences (24 cr)
  HSS  222  Teaching in Diverse Communities (3)
  HSS  310  Perspectives on New Mexico History and Culture (4)
  HSS  311  Readings in the Social Sciences (4)
  HSS  320  Genesis of Mathematics and Science (4)
  HSS  410  Senior Seminar: Teaching the Humanities (1)
  HSS  414  Humanity and Creativity (4)
  HSS  421  History, Literature, Art, and Philosophy (4)

TOTAL CREDITS: 120-129
Alternative Licensure Program (Certificate)
ELEMENTARY, SECONDARY, or SPECIAL EDUCATION

The College of Education is accredited by the New Mexico Public Education Department. These programs of study lead to teacher licensure for individuals who already hold a degree (bachelor’s, master’s, or doctorate) from a regionally accredited college or university. Teacher candidates can choose from one of the following courses of study:

  **Elementary Education** (K-8th grades) work in diverse educational settings in grades kindergarten through eight.
  
  **Secondary Education** (7th-12th grades) work in diverse educational settings in grades seven through twelve.
  
  **Special Education** (K-12th grades) work with students with special needs and acquire strategies that are effective for all learners in grades kindergarten through twelve.

**ADMISSION TO THE ALTERNATIVE LICENSURE PROGRAM**

In order to be accepted into the ALP Program, the teacher candidate must be admitted to NNMC and have official transcripts from all colleges sent to the Office of Admissions.

The second step is to submit an application packet to Northern New Mexico College of Education, Teacher Education Center, Room 201, which includes the following:

1. *Proof of admission* to Northern New Mexico College, i.e. student ID/banner ID (Students must declare an ALP Certificate Program on their application),
2. *Completed Alternative Licensure Program application* a) found in ALP Handbook, www.nnmc.edu, or at COE Administrative Office, Teacher Education Center, Room 201,
3. *Letter of Intent*: a one page typed letter stating a) reasons for wanting to become a teacher, b) experience, and c) personal strengths,
4. *Philosophy of Education*: a one-page statement that describes beliefs about a) education, b) learning, and c) working with students,
5. *Two (2) letters of recommendation*,
6. *Transcript(s)* of highest degree conferred,
7. *Copy of favorable background check*,
8. *Signed Assurance form* a) found in ALP Handbook, www.nnmc.edu, or at COE Administrative Office, Teacher Education Center, Room 201,
9. Completed application materials will be reviewed by the College of Education and teacher candidates will be advised accordingly. An interview will be scheduled.

**FOR ALTERNATIVE ELEMENTARY (K-8) you must have one of the following:**

  **Bachelor’s Degree** (from an accredited college or university) including 30 semester hours in a combination of language arts, mathematics, science, history, fine & performing arts and modern, classical & native language, OR
  
  **Master’s Degree** (from an accredited college or university) including 12 graduate hours in a combination of language arts, mathematics, science, history, fine & per-
forming arts and modern, classical & native language, OR

**Doctor's Degree** (from an accredited college or university) in elementary education.

**FOR ALTERNATIVE SECONDARY (7-12) you must have one of the following:**

**Bachelor's Degree** (from an accredited college or university) including 30 semester hours in a teaching field, OR

**Master's Degree** (from an accredited college or university) including 12 graduate hours in a teaching field, OR

**Doctor's Degree** (from an accredited college or university) in the teaching field.

**FOR ALTERNATIVE SPECIAL EDUCATION (K-12) you must have one of the following:**

**Bachelor's Degree** (from an accredited college or university) including 30 semester hours in a combination of language arts, mathematics, science, history, fine & performing arts and modern, classical & native language, OR

**Master's Degree** (from an accredited college or university) including 12 graduate hours in a combination of language arts, mathematics, science, history, fine & performing arts and modern, classical & native language, OR

**Doctor's Degree** (from an accredited college or university) in special education.

**TRANSFER CREDITS**

Up to 6 credits of professional preparation coursework will be considered on a case-by-case basis.

**NEW MEXICO TEACHER ASSESSMENTS**

After admission into the ALP Program, and during the first semester of enrollment, teacher candidates must provide a passing score on the Essential Academic Skills Assessment (I, II, III) required by the State of New Mexico. In the last semester of course work, the teacher candidate must provide proof of a passing score on the remaining required State of New Mexico teacher assessments respective to their program. The College of Education's ALP Office must receive copies from the teacher candidate of their assessment results in order to provide them a letter of completion.

**ASSESSMENT OF CANDIDATE LEARNING**

Teacher candidates must earn a B or better in all courses to remain in good standing in the program. In addition, students’ progress will be evaluated by: 1) providing proof of passing all of the required State of New Mexico teacher assessments respective to their program, 2) an entry-level teacher competency-based collection of artifacts portfolio; and 3) practicum and student teaching observations and self-assessments.

**ELEMENTARY (K-8)**

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<tr>
<td>ED 401</td>
<td>Foundations of Education (3)</td>
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<tr>
<td>ED 412</td>
<td>Teaching and Diagnosis of Reading (Elem) (3)</td>
</tr>
<tr>
<td>ED 452</td>
<td>Pedagogy and Human Learning (3)</td>
</tr>
<tr>
<td>ED 464</td>
<td>Teaching Reading and Writing (Elem) (3)</td>
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<td>ED 493</td>
<td>The Integrated Elementary Classroom (2)</td>
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<td>ED 496</td>
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<td>ED 496L</td>
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**TOTAL CREDITS: 20**

### SECONDARY (7-12)

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<td>Foundations of Education</td>
<td>(3)</td>
</tr>
<tr>
<td>ED 452</td>
<td></td>
<td>Pedagogy and Human Learning</td>
<td>(3)</td>
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<tr>
<td>ED 462</td>
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<td>Reading and Writing Across the Curriculum (Sec)</td>
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<tr>
<td>ED 474</td>
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<td>Methods and Materials in Secondary Education</td>
<td>(3)</td>
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<tr>
<td>ED 495</td>
<td></td>
<td>Assessment &amp; Evaluation of Student Learning</td>
<td>(3)</td>
</tr>
<tr>
<td>ED 496</td>
<td></td>
<td>Supervised Field Experience (Elem/Sec)</td>
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<tr>
<td>ED 496L</td>
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<td>Supervised Field Experience Lab (Elem/Sec)</td>
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**TOTAL CREDITS: 18**

### SPECIAL EDUCATION (K-12)

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<td>Foundations of Education</td>
<td>(3)</td>
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<tr>
<td>SPED 455</td>
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<td>The Special Education Program: IEP’s and Assessments</td>
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<tr>
<td>SPED 465</td>
<td></td>
<td>Reading for Special Learners</td>
<td>(3)</td>
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<tr>
<td>SPED 475</td>
<td></td>
<td>Curriculum Methods and Materials for Special Education</td>
<td>(3)</td>
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<tr>
<td>SPED 485</td>
<td></td>
<td>Teaching Reading in Special Education</td>
<td>(3)</td>
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<td>SPED 497</td>
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<tr>
<td>SPED 497L</td>
<td></td>
<td>Supervised Field Experience Lab</td>
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</table>

**TOTAL CREDITS: 20**
College of ENGINEERING and TECHNOLOGY

The College of Engineering and Technology offers degrees in Engineering and Career and Technical Education (CTE). The following degrees are offered in the Engineering field: Post Baccalaureate Certificate in Information Engineering Technology, Bachelor of Engineering (BEng) degrees in Engineering Technology and Mechanical Engineering (Solar Energy Concentration) as well as Associate of Engineering (AEng) degrees in Information Technology, Software Engineering, and Pre-Engineering. The following degrees are offered in CTE: Associate in Applied Science (AAS) in Electrical Technology, and Renewable Energy as well as a Certificate in Electrical Technology.

*Note:* In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor's degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

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Vishal Mehta, PhD  ME  747.5061  vishal.mehta@nnmc.edu
Ashis Nandy, PhD  ME  747.2249  ashis@nnmc.edu
Raul Peralta, MS  IT  747.5497  rperalta@nnmc.edu

ADMISSION REQUIREMENTS FOR ASSOCIATE OF CTE PROGRAMS
All students admitted to NNMC will be admitted to the Associate Degree of Applied Science Program if they declare the degree on the Degree Declaration form.

ADMISSION REQUIREMENTS FOR ASSOCIATE OF ENGINEERING PROGRAMS
All students admitted to NNMC will be admitted to the Associate Degree of Engineering Program if they declare the degree on the Degree Declaration form.

ADMISSION REQUIREMENTS FOR BACHELOR OF ENGINEERING PROGRAMS
All students that attempt admission for any of the Bachelor of Engineering Programs must fulfill the following requirements:
1. Fill out the degree declaration form at the registrar office.
   A) Bachelor of Engineering Information Engineering Technology: Completion of the following courses with an average of 2.5,
and a minimum grade of C for every course:

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<th>Course Title</th>
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<tbody>
<tr>
<td>CS</td>
<td>201 Math Foundation of Computer Science</td>
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<tr>
<td>MATH</td>
<td>162E Calculus I</td>
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<td>163E Calculus II</td>
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<tr>
<td>EECE</td>
<td>152 Computer Programming</td>
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<tr>
<td>EECE</td>
<td>231 Intermediate Programming</td>
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<tr>
<td>EECE</td>
<td>132 Computer Networks I</td>
</tr>
<tr>
<td>IT</td>
<td>250 Introduction to Databases</td>
</tr>
</tbody>
</table>

B) Bachelor of Engineering Mechanical Engineering (Solar Energy Concentration)

Completion of the following courses with an average of 2.5, and a minimum grade of C for every course:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH</td>
<td>162E Calculus I</td>
</tr>
<tr>
<td>MATH</td>
<td>163E Calculus II</td>
</tr>
<tr>
<td>PHYS</td>
<td>215/L Engineering Physics I/Lab</td>
</tr>
<tr>
<td>PHYS</td>
<td>216/L Engineering Physics II/Lab</td>
</tr>
<tr>
<td>ME</td>
<td>160L General Engineering Design</td>
</tr>
<tr>
<td>ME</td>
<td>202 Engineering Statics</td>
</tr>
</tbody>
</table>

2. When all the above requirements have been fulfilled, the student must receive a letter of admission to the bachelor program from the College of Engineering and Technology Dean.

Note: If a student does not fulfill the admission requirements for the Bachelor of Engineering Programs, the student will still be eligible to finish the degree requirements for an Associate of Engineering Degree.

ADMISSION REQUIREMENTS FOR THE POST BACCALAUREATE ENGINEERING CERTIFICATE

All students that attempt admission for any of the Post Baccalaureate Engineering Programs must fulfill the following minimum requirements:

1. Have earned a bachelor's degree in the engineering field
2. Complete the online admission application form
3. Have earned a minimum 3.0 GPA in the bachelor degree
4. Submit three letters of recommendation from faculty or previous/current employers

Although not currently required, we encourage students to submit Graduate Record Examination (GRE) scores along with the application.

Note: Admission is competitive and completion of the above requirements does not suffice for admission to the program. The College of Engineering and Technology is ultimately responsible for granting admission to a Post Baccalaureate Certificate.

ADVISEMENT REQUIREMENT FOR ALL ENGINEERING STUDENTS

All declared engineering students are required to receive mandatory advisement prior to registration every semester. A mandatory advisement hold will be lifted only after a student has met with his/her advisor. New students will be advised by the Dean.
of the College of Engineering and Technology the first time and then will be assigned to a faculty academic advisor.

Students are advised not to attempt upper division coursework (300 and 400-level classes) unless they have earned a GPA of 2.50 or better in all coursework taken at the 100 and 200-level.

**GRADUATION REQUIREMENTS FOR ASSOCIATE OF ENGINEERING STUDENTS**

The College of Engineering and Technology requires that all the students enrolled in an Associate of Engineering degree fulfill all of the following requirements before they can graduate:

1. Be admitted to the NNMC Associate of Engineering Program
2. Fulfill all NNMC graduation requirements
3. An overall GPA of at least 2.50 in all coursework

**GRADUATION REQUIREMENTS FOR BACCALAUREATE STUDENTS**

The College of Engineering and Technology requires that all Baccalaureate students fulfill the following requirements for graduation:

1. Be admitted to the NNMC Engineering Baccalaureate Program
2. Fulfill all NNMC graduation requirements
3. An overall GPA of at least 2.50 in all coursework
4. Perform a minimum of 100 hours of community/college service

Mentoring, tutoring, internships and research projects are examples of available opportunities for students to fulfill this requirement. Before you start working on any activity towards this requirement you need approval from your academic advisor. Students can discuss other opportunities with their academic advisor.

**GRADUATION REQUIREMENTS FOR POST BACCALAUREATE STUDENTS**

The College of Engineering and Technology requires that all Post Baccalaureate students fulfill the following requirements for graduation:

1. Fulfill all NNMC graduation requirements
2. A minimum overall GPA of 3.0 for graduation and no more than one C+ or below grade in the coursework.
PROGRAMS in ENGINEERING

Associate in Engineering in INFORMATION ENGINEERING TECHNOLOGY

The curriculum for the Associate in Engineering (AEng) in Information Technology is designed for those engineering students who intend to launch a career in the design, installation, maintenance, and repair of computer networks used for critical data entry, transfer, retrieval, and management.

Coursework in the program is practice-oriented and prepares students to work in a variety of computer-intensive environments, such as technical organizations, small or large businesses, product design or manufacturing companies, and data-directed services. The breadth of training in hardware, software, troubleshooting equipment, and other computer tools will enable the graduate to work in a variety of roles in such occupations as network designer, network support and administrator, project manager, data applications or computer communications engineer, test and integration manager or technologist in business applications.

The graduate of this curriculum could be a computer network specialist, and will be broadly versed in mathematics, physics, computer science, and business fundamentals.

The program objectives are the following:

1. Graduates will be situated in growing entry-level careers involving support of Information Technology Systems.
2. Graduates will have demonstrated involvement in high-level technical roles.

Completion of this program should result in the following student outcomes:

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to function on multidisciplinary teams
3. An ability to communicate effectively
4. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
5. A knowledge of contemporary issues
6. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

GENERAL EDUCATION (33 CR)

Area I. Communications (9 cr)
- ENG 111 English Composition I (3)
- ENG 116 Technical Writing (3)
- SPCH 130 Public Speaking (3)

Area II. Mathematics (7 cr)
- MATH 145 Introduction to Probability & Statistics (3)
ENGR 120 Introductory Math for Engineering Applications (4)

**Area III. Laboratory Sciences (8 cr)**

- PHYS 215/L Engineering Physics I with lab (4)
- Elective Laboratory Science (4)

You must select a course from the following list:

- ASTR 110/L Intro to Astronomy with Lab (4)
- PHYS 122/L Applied Physics II with lab (4)
- PHYS 215/L Engineering Physics I with lab (4)
- PHYS 216/L Engineering Physics II with lab (4)
- CHEM 121/L General Chemistry I with Lab (4)
- ES 112/L Introduction to Environmental Science with Lab (4)
- BIOL 110/L Current Topics in Biology with Lab (4)
- GEOL 101/L Physical Geology with Lab (4)

**Area IV. Social/Behavioral Sciences (3 cr)**

- ECON 201 Microeconomics (3)

**Area V. Humanities and Fine Arts (3 cr)**

- Elective (3) Choose elective from Gen Ed Area IV on page 28.

**Area VI. First Year Experience (3 cr)**

- FYE 101 First Year Experience (3)

**PROGRAM REQUIREMENTS (29 CR)**

**Electrical, Electronic, and Computer Engineering (24 cr)**

- EECE 105L Microcomputer Systems (3)
- EECE 111 Introduction to Web Programming (3)
- EECE 132 Computer Networks I (3)
- EECE 152L Computer Programming I (3)
- EECE 230 Introduction to Routing and Switching (3)
- EECE 231L Intermediate Programming I (3)
- CS/EECE/IT Elective (6)

**Information Technology (3 cr)**

- IT 250 Introduction to Databases (3)

**Support Technologies (2 cr)**

- ENGR 110L Introduction to Engineering (2)

**TOTAL CREDITS: 62**

**SUGGESTED SEQUENCE OF COURSES**

**First Semester (15 crs)**

- FYE 101 First Year Experience (3)
- ENGR 110L Introduction to Engineering (2)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECE 111</td>
<td>Introduction to Web Programming (3)</td>
<td></td>
</tr>
<tr>
<td>ENGR 120L</td>
<td>Introductory Math for Engineering Applications (4)</td>
<td></td>
</tr>
<tr>
<td>EECE 132</td>
<td>Computer Networks I (3)</td>
<td></td>
</tr>
</tbody>
</table>

**Second Semester (16 crs)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>English Composition I (3)</td>
<td></td>
</tr>
<tr>
<td>EECE 152L</td>
<td>Computer Programming I (3)</td>
<td></td>
</tr>
<tr>
<td>PHYS 215/L</td>
<td>Engineering Physics I with lab (4)</td>
<td></td>
</tr>
<tr>
<td>EECE 230</td>
<td>Introduction to Routing and Switching (3)</td>
<td></td>
</tr>
<tr>
<td>EECE/CS/IT</td>
<td>Elective (3)</td>
<td></td>
</tr>
</tbody>
</table>

**Third Semester (16 crs)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECE 105L</td>
<td>Microcomputer Systems (3)</td>
<td></td>
</tr>
<tr>
<td>ENG 116</td>
<td>Technical Writing (3)</td>
<td></td>
</tr>
<tr>
<td>MATH 145</td>
<td>Introduction to Probability and Statistics (3)</td>
<td></td>
</tr>
<tr>
<td>IT 250</td>
<td>Introduction to Databases (3)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>Laboratory Science (4)</td>
<td></td>
</tr>
</tbody>
</table>

**Fourth Semester (15 crs)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPCH 130</td>
<td>Public Speaking (3)</td>
<td></td>
</tr>
<tr>
<td>ECON 201</td>
<td>Microeconomics (3)</td>
<td></td>
</tr>
<tr>
<td>EECE 231</td>
<td>Intermediate Programming (3)</td>
<td></td>
</tr>
<tr>
<td>CS/EECE/IT</td>
<td>Elective (3)</td>
<td></td>
</tr>
<tr>
<td>HFA</td>
<td>Elective (3)</td>
<td></td>
</tr>
</tbody>
</table>

**Associate in Engineering PRE-ENGINEERING**

This program will prepare you for a bachelor’s degree in engineering. You will obtain both a general background in mathematics and the physical sciences, and an introduction to the concepts and methods of engineering. This program is not a professional degree and does not prepare you for specific job opportunities. It does, however, provide a broad educational foundation on which to build a career through additional education or work experience.

**The program objectives are the following:**

1. Graduates will have demonstrated knowledge and skills to pursue an engineering bachelor program.
2. Graduates will have demonstrated involvement in high-level technical roles.

**Completion of this program should result in the following student outcomes:**

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to function on multidisciplinary teams
3. An ability to communicate effectively
4. The broad education necessary for understanding the impact of engineering
solutions in a global, economic, environmental, and societal context
5. Knowledge of contemporary issues
6. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

GENERAL EDUCATION (38 CR)

Area I. Communications (9 cr)
| ENG 111  | English Composition I (3) |
| ENG 116  | Technical Writing (3)     |
| SPCH 130 | Public Speaking (3)       |

Area II. Mathematics (12 cr)
| ENGR 120L | Introductory Mathematics for Engineering Applications (4) |
| MATH 162E | Calculus I (4)                                             |
| MATH 163E | Calculus II (4)                                            |

Area III. Laboratory Sciences (8 cr)
| PHYS 215/L | Engineering Physics I with lab (4) |
Select one class from the following list:
| PHYS 216/L | Engineering Physics II with lab (4) |
| CHEM 121/L | General Chemistry with lab (4)     |
| Other Science Class with the approval of the advisor (4) |

Area IV. Social/Behavioral Sciences (3 cr)
Select one class from the following list:
| ECON 201  | Microeconomics (3) |
| ECON 200  | Macroeconomics (3) |

Area V. Humanities and Fine Arts (3 cr)
Elective (3)  Choose electives from Gen Ed Area IV on page 27.

Area VI. First Year Experience (3 cr)
FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (22 CR)

Engineering (22 cr)
| ENGR 110L | Introduction to Engineering (2) |
| EECE 152L | Computer Programming I (3)      |
| DRFT 100  | Computer Aided Drafting I (4)   |
| MET 201   | Applied Mechanics (3)           |
| EET 200   | Electrical Systems I (3)        |
| EET 200L  | Electrical Systems Lab (1)      |
| Engineering/Technical Elective (6) |

TOTAL CREDITS: 60
SUGGESTED SEQUENCE OF COURSES

First Semester (16 crs)
- ENGR 120 Introductory Mathematics for Engineering Applications (4)
- DRFT 100 Computer Aided Drafting I (4)
- ENGR 110 Introduction to Engineering (2)
- Engineering/Technical Elective (3)
- FYE 101 First year Experience (3)

Second Semester (15 crs)
- EECE 152L Computer Programming I (3)
- ENG 111 English Composition I (3)
- Engineering/Technical Elective (3)
- HFA Elective (3)
- ECON 201/200 Microeconomics or Macroeconomics (3)

Third Semester (15 crs)
- MATH 162E Calculus I (4)
- PHYS 215/L Engineering Physics I with Lab (4)
- SPCH 130 Public Speaking (3)
- EET 200 Electrical Systems I (3)
- EET 200L Electrical Systems I Lab (1)

Fourth Semester (14 crs)
- Science/Lab Elective (4)
- MATH 163E Calculus II (4)
- MET 20 Applied Mechanics I (3)
- ENG 116 Technical Writing (3)

Associate in Engineering in SOFTWARE ENGINEERING

The curriculum in the Associate Degree in Engineering (AEng) in Software Engineering is designed for those who intend to launch a career in the testing, installation, and maintenance of computer software modules and systems. Coursework in the program is hands-on oriented and prepares students to work in a variety of computer-intensive environments that involve engineering support: technical organizations, small or large businesses, manufacturing companies, and data-directed services.

The breadth of training in hardware, software, troubleshooting equipment, and other computer tools will enable the graduate to work in a variety of roles in such occupations as software technician, computer systems technician, data applications or computer technician, or as a test and integration assistant. Graduates of this program will be a software engineering technician versed in mathematics, physics, computer science, software development, and business fundamentals.

The program objectives are the following:
1. Graduates will have demonstrated knowledge and skills to pursue an engineering bachelor program.
2. Graduates will have demonstrated involvement in high-level technical roles.

**Completion of this program should result in the following student outcomes:**

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to function on multidisciplinary teams
3. An ability to communicate effectively
4. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
5. A knowledge of contemporary issues
6. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

**GENERAL EDUCATION (33 CR)**

**Area I. Communications (9 cr)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG</td>
<td>111</td>
<td>English Composition I (3)</td>
</tr>
<tr>
<td>ENG</td>
<td>116</td>
<td>Technical Writing (3)</td>
</tr>
<tr>
<td>SPCH</td>
<td>130</td>
<td>Public Speaking (3)</td>
</tr>
</tbody>
</table>

**Area II. Mathematics (7 cr)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH</td>
<td>145</td>
<td>Introduction to Probability &amp; Statistics (3)</td>
</tr>
<tr>
<td>ENGR</td>
<td>120L</td>
<td>Introductory Math for Engineering Applications (4)</td>
</tr>
</tbody>
</table>

**Area III. Laboratory Sciences (8 cr)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS</td>
<td>215/L</td>
<td>Engineering Physics I with lab (4)</td>
</tr>
</tbody>
</table>

You must select a course from the following list:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR</td>
<td>110/L</td>
<td>Intro to Astronomy with Lab (4)</td>
</tr>
<tr>
<td>PHYS</td>
<td>122/L</td>
<td>Applied Physics II with lab (4)</td>
</tr>
<tr>
<td>PHYS</td>
<td>215/L</td>
<td>Engineering Physics I with lab (4)</td>
</tr>
<tr>
<td>PHYS</td>
<td>216/L</td>
<td>Engineering Physics II with lab (4)</td>
</tr>
<tr>
<td>CHEM</td>
<td>121/L</td>
<td>General Chemistry I with Lab (4)</td>
</tr>
<tr>
<td>ES</td>
<td>112/L</td>
<td>Introduction to Environmental Science with Lab (4)</td>
</tr>
<tr>
<td>BIOL</td>
<td>110/L</td>
<td>Current Topics in Biology with Lab (4)</td>
</tr>
<tr>
<td>GEOL</td>
<td>101/L</td>
<td>Physical Geology with Lab (4)</td>
</tr>
</tbody>
</table>

**Area IV. Social/Behavioral Sciences (3 cr)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON</td>
<td>201</td>
<td>Microeconomics (3)</td>
</tr>
</tbody>
</table>

**Area V. Humanities and Fine Arts (3 cr)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
<td></td>
<td>Choose electives from Gen Ed Area IV on page X</td>
</tr>
</tbody>
</table>

**Area VI. First Year Experience (3 cr)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FYE</td>
<td>101</td>
<td>First Year Experience (3)</td>
</tr>
</tbody>
</table>
### PROGRAM REQUIREMENTS (29 CR)

**Computer Science (6 cr)**
- CS 201 Mathematical Foundations of Computer Science (3)
- IT 250 Introduction to Databases (3)

**Electrical, Electronic, and Computer Engineering (21 cr)**
- EECE 105L Microcomputer Systems (3)
- EECE 111 Introduction to Web Programming (3)
- EECE 132 Computer Networks I (3)
- EECE 152L Computer Programming I (3)
- EECE 231L Intermediate Programming I (3)
- CS/EECE/IT Elective (6)

**Support Technologies (2 cr)**
- ENGR 110L Introduction to Engineering (2)

**TOTAL CREDITS: 62**

### SUGGESTED SEQUENCE OF COURSES

**First Semester (15 crs)**
- FYE 101 First Year Experience (3)
- ENGR 110L Introduction to Engineering (2)
- EECE 111 Introduction to Web Programming (3)
- ENGR 120L Introductory Math for Engineering Applications (4)
- EECE 132 Computer Networks I (3)

**Second Semester (16 crs)**
- EECE 105L Microcomputer Systems (3)
- ENG 111 English Composition I (3)
- EECE 152L Computer Programming I (3)
- PHYS 215/L Engineering Physics I with lab (4)
- EECE/CS/IT Elective (3)

**Third Semester (16 crs)**
- ENG 116 Technical Writing (3)
- MATH 145 Introduction to Probability and Statistics (3)
- CS 201 Mathematical Foundations of Computer Science (3)
- IT 250 Introduction to Databases (3)
- Elective Laboratory Science (4)

**Fourth Semester (15 crs)**
- SPCH 130 Public Speaking (3)
- ECON 201 Microeconomics (3)
- EECE 231 Intermediate Programming (3)
- EECE/CS/IT Elective (3)
- HFA Elective (3)
The Bachelor of Engineering in Information Engineering Technology Program is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, www.abet.org. Accreditation is proof that the quality of an academic program meets the standards of the profession.

The curriculum of the Bachelor of Engineering (BEng) in Information Engineering Technology is designed for those students who intend to launch a career in the design, installation, maintenance, and repair of computing technologies. Coursework in the program is practice-orientated and prepares students to work in a variety of computer-intensive environments, such as technical organizations, small or large businesses, product design or manufacturing companies, and data-directed services. The breadth of training in hardware, software, troubleshooting equipment, and other computer tools will enable the graduate to work in a variety of roles in such environments as software, network, database, and web designer. Additionally, the graduate will have the ability to work as network manager and administrator, project manager, applications developer, test and integration manager and technologist in business applications. The graduate of this curriculum will be versed in mathematics, physics, computer science, and business fundamentals, giving him/her the fundamental knowledge for further graduate studies in Computer Science, Computer Engineering, or Telecommunication Systems.

Failure to maintain an overall GPA of 2.00 or better in all coursework will be sufficient cause for being dropped from the program.

The program objectives are the following:

1. Graduates will be situated in growing careers involving design, development, and support of Information Technology Systems.
2. Graduates will perform effectively individually and in teams.
3. Graduates will have demonstrated involvement in high-level technical and leadership roles.
4. Graduates will have accumulated technical expertise to remain globally competitive.

Completion of this program should result in the following student outcomes:

1. An appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines
2. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology
3. An ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes
4. An ability to apply creativity in the design of systems, components, or processes appropriate to program educational objectives
5. An ability to function effectively on teams
6. An ability to identify, analyze, and solve technical problems
7. An ability to communicate effectively
8. A recognition of the need for, and an ability to, engage in lifelong learning
9. An ability to understand professional, ethical, and social responsibilities
10. A respect for diversity and knowledge of contemporary professional, societal, and global issues
11. A commitment to quality, timeliness, and continuous improvement
12. The application of Computer and network hardware, operating systems, system and network administration, programming languages, applications software, and databases in the building, testing, operation, and maintenance of hardware and software systems
13. The application of electrical, electronic, telecommunications, and digital signal propagation fundamentals in the building, testing, operation and maintenance of hardware and software systems
14. The ability to design, implement, maintain, and provide for the security of facilities involved with the processing and transfer of information
15. The ability to apply project management techniques to facilities that process and transfer information
16. The ability to apply discrete mathematics, and probability and statistics in the support of facilities that process and transfer information

Students are advised not to attempt upper division coursework (300 and 400-level classes) unless they have earned a GPA of 2.50 or better in all IT, CS, and CT coursework taken at the 100 and 200-level.

GENERAL EDUCATION (38 CR)

Area I. Communications (9 cr)

ENG 111 English Composition I (3)
ENG 116 Technical Writing (3)
SPCH 130 Public Speaking (3)

Area II. Mathematics (3 cr)

MATH 145 Introduction to Probability and Statistics (3)

Area III. Laboratory Sciences (8 cr)

PHYS 215/L Engineering Physics I with lab (4)
Elective Laboratory Science (4)

You must select a course from the following list:

ASTR 110/L Intro to Astronomy with Lab (4)
PHYS 122/L Applied Physics II with lab (4)
PHYS 215/L Engineering Physics I with lab (4)
PHYS 216/L Engineering Physics II with lab (4)
CHEM 121/L General Chemistry I with Lab (4)
ES 112/L Introduction to Environmental Science with Lab (4)
BIOL 110/L Current Topics in Biology with Lab (4)
GEOL 101/L Physical Geology with Lab (4)
Area IV. Social/Behavioral Sciences (6–9 cr)

ECON 201 Microeconomics (3)
Elective (3-6) * Choose electives from Gen Ed Area IV on page 27.

Area V. Humanities and Fine Arts (6–9 cr)

Second Language (3)
Electives (3-6) Choose electives from Gen Ed Area V on page 28.

Area VI. First Year Experience (3 cr)
FYE 101 First Year Experience (3)

SUPPORT COURSES (8 CR)

MATH 162E Calculus I (4)
MATH 163E Calculus II (4)

PROGRAM REQUIREMENTS (77 CR)

Computer Science (3)

CS 201 Math Foundations of Computer Science (3)

Electrical, Electronic, and Computer Engineering (37 cr)

EECE 105L Microcomputer Systems I (3)
EECE 111 Introduction to Web Programming (3)
EECE 132 Computer Networks I (3)
EECE 152L Computer Programming I (3)
EET 200/L Electrical Systems I with Lab (4)
EECE 230 Introduction to Routing and Switching (3)
EECE 231L Intermediate Programming (3)
EECE 329 Human Computer Interaction (3)
EECE 330 Computer Networks II (3)
EECE 351 Advanced Programming I (3)
EECE 355 Web Engineering (3)
EECE 440 Advanced Computer Networks (3)

Information Technology (15 cr)

IT 250 Introduction to Databases (3)
IT 350 Database Management (3)
IT 410 Information Assurance/Security (3)
IT 490 IT Capstone I (3) (WIC)
IT 491 IT Capstone II (3)

Business (4 cr)

ENGR 480 Engineering Management and Project Management (4)

Support Technologies (18 cr)

ENGR 110L Introduction to Engineering (2)
ENGR 120L Introductory Math for Engineering Applications (4)
Electives EECE/CS/IT/MATH/ENGR courses (at least 9 upper division) (12)

TOTAL CREDITS: 123
SUGGESTED SEQUENCE OF COURSES

HFA = Humanities & Fine Arts (Area V)
SBS = Social/Behavioral Science (Area IV)

First Semester (15 crs)
- FYE 101 First Year Experience (3)
- ENGR 110L Introduction to Engineering (2)
- EECE 111 Introduction to Web Design (3)
- ENGR 120L Introductory Math for Engineering Applications (4)
- EECE 132 Computer Networks I (3)

Second Semester (17 crs)
- ENG 111 English Composition I (3)
- EECE 152L Computer Programming I (3)
- EET 200 Electrical Systems I with Lab (4)
- PHYS 215/L Engineering Physics I with Lab (4)
- EECE 230 Introduction to Routing and Switching (3)

Third Semester (16 cr)
- EECE 105L Microcomputer Systems (3)
- ENG 116 Technical Writing (3)
- MATH 145 Introduction to Probability and Statistics (3)
- IT 250 Introduction to Databases (3)
- Elective Laboratory Science (4)

Fourth Semester (15 cr)
- SPCH 130 Public Speaking (3)
- ECON 201 Microeconomics (3)
- EECE 231 Intermediate Programming (3)
- EECE/IT/CS/MATH/ENGR Elective lower or upper division (3)
- HFA Elective (3)

Fifth Semester (16 cr)
- MATH 162 Calculus I (4)
- CS 201 Math Foundations of Computer Science (3)
- EECE 329 Human Computer Interaction (3)
- EECE 330 Computer Networks II (3)
- IT 350 Database Management (3)

Sixth Semester (16 cr)
- MATH 163 Calculus II (4)
- EECE 350 Advanced Programming (3)
- EECE 355 Web Engineering (3)
- ENGR 480 Engineering Management and Project Management (3)
- EECE/CS/IT/MATH/ENGR Elective 3XX/4XX (3)
Seventh Semester (16 cr)

<table>
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<td>Advanced Computer Networks (3)</td>
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<td>IT 490</td>
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Eighth Semester (12 cr)

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<td>IT 491</td>
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<td>SBS or HFA</td>
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<tr>
<td></td>
<td>EECE/CS/IT/MATH/ENGR Elective 3XX/4XX (3)</td>
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Bachelor of Engineering (BEng)

ELECTROMECHEANICAL ENGINEERING TECHNOLOGY

The Bachelor of Engineering in Electromechanical Engineering Technology (BEng. EMET) program is offered in response to a growing demand from industrial and consulting companies for engineering staff members with a wide range of technical knowledge. At Northern, this program will provide a clear pathway towards a bachelor degree for students completing Career and Technical Education associates in Drafting, Electricity and Renewable Energy and Pre-engineering. The primary aim of the BEng. EMET program is to provide graduates with the knowledge and skills necessary to apply current methods and technology to the development, design, operation, and management of electro-mechanical systems, particularly in those industries where automated systems are prevalent. The program will offer a concentration in Solar Energy and will provide the knowledge and skills for this two growing technical fields.

Students are advised not to attempt upper division coursework (300 and 400-level classes) unless you have earned a GPA of 2.5 or better in all coursework taken at the 100 and 200-level. Failure to maintain an overall GPA of 2.0 or better in all coursework will be sufficient cause for being dropped from the program.

The program objectives are the following:

1. Graduates will be situated in growing careers involving design, development, and support of Electro-Mechanical Engineering Systems.
2. Graduates will demonstrate involvement in significant technical roles and beginning leadership roles.
3. Graduates will perform effectively both individually and in teams and demonstrate oral and written communication skills in the working environment.
4. Graduates will continue personal and professional growth to remain globally competitive and develop a beginning understanding of business and ethical aspects of work.
5. Graduates will demonstrate an ability to creatively use science and technology to solve problems.
Completion of this program should result in the following student outcomes:

1. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;
2. An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;
3. An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;
4. An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives;
5. An ability to function effectively as a member or leader on a technical team;
6. An ability to identify, analyze, and solve broadly-defined engineering technology problems;
7. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;
8. An understanding of the need for and an ability to engage in self-directed continuing professional development;
9. An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;
10. A knowledge of the impact of engineering technology solutions in a societal and global context;
11. A commitment to quality, timeliness, and continuous improvement;
12. Use computer-aided drafting or design tools to prepare graphical representations of electromechanical systems;
13. Use circuit analysis, analog and digital electronics, basic instrumentation, and computers to aid in the characterization, analysis, and troubleshooting of electromechanical systems;
14. Use statics, dynamics (or applied mechanics), strength of materials, engineering materials, engineering standards, and manufacturing processes to aid in the characterization, analysis, and troubleshooting of electromechanical systems;
15. Use appropriate computer programming languages for operating electromechanical systems;
16. Use electrical/electronic devices such as amplifiers, motors, relays, power systems, and computer and instrumentation systems for applied design, operation, or troubleshooting electromechanical systems;
17. Use advanced topics in engineering mechanics, engineering materials, and fluid mechanics for applied design, operation, or troubleshooting of electromechanical systems.
18. Use basic knowledge of control systems for the applied design, operation, or troubleshooting of electromechanical systems;
19. Use differential and integral calculus, as a minimum, to characterize the static and dynamic performance of electromechanical systems; and
20. Use appropriate management techniques in the investigation, analysis, and design of electromechanical systems.
GENERAL EDUCATION (39 CR)

Area I. Communications (9 cr)
  ENG  111  English Composition I (3)
  ENG  116  Technical Writing (3)
  SPCH 130  Public Speaking (3)

Area II. Mathematics (4 cr)
  MATH  162E  Calculus I For Engineers (4)

Area III. Laboratory Sciences (8 cr)
  PHYS  215/L  Engineering Physics I with lab (4)
  Select one class from the following list:
    PHYS  216/L  Engineering Physics II with lab (4)
    CHEM  121/L  General Chemistry I with Lab (4)
  Other Science Class with the approval of the advisor (4)

Area IV. Social/Behavioral Sciences (6 or 9 cr)
  Select one class from the following list:
    ECON  201  Microeconomics (3)
    ECON  200  Macroeconomics (3)
    Electives (3-6)  Choose electives from Gen Ed Area IV on page 27-

Area V. Humanities and Fine Arts (6 or 9 cr)
  Second Language Elective (3)
  Choose electives from Gen Ed Area V on page 28.

Area VI. First Year Experience (3 cr)
  FYE  100  First Year Experience (3)

SUPPORT COURSES (8 CR)
  ENGR  120  Introductory Mathematics for Engineering Applications (4)
  MATH  163E  Calculus II For Engineers (4)

PROGRAM REQUIREMENTS (76 CR)

  Electromechanical Engineering Technology Courses (64 cr)
    ENGR  110L  Introduction to Engineering (2)
    DRFT  100  Computer Aided Drafting I (4)
    EECE  152  Computer Programming I (3)
    MET  201  Applied Mechanics I (3)
    MET  301  Applied Mechanics II (2)
    MET  302  Strength and Properties of Materials (3)
    MET  310  Manufacturing Processes and Automation (3)
    EET  200/L  Electrical Systems I with Lab (4)
    EET  300/L  Electrical Systems II with Lab (4)
    EET  400/L  Control Systems and Instrumentation with Lab (4)
    EMET  400  Advanced Electro-Mechanical Design (3)
ME T 420  Thermal-Fluid Engineering (4)
ENGR 480  Engineering Management and Project Management (4)
EMET 490  Capstone I (3)
EMET 491  Capstone II (3)
Lower/Upper Division Engineering or Technical Elective (15)

**Solar Energy Concentration (12 cr)**
- MET 421  Heat Transfer (3)
- ME 403  Solar Thermal Applications (3)
- EECE 453  Electric Energy Storage Devices (3)
- EECE 472  Photovoltaic Devices (3)

**TOTAL CREDITS: 123**

**SUGGESTED SEQUENCE OF COURSES**

**First Semester (16 cr)**
- ENGR 120L  Introductory Mathematics for Engineering Applications (4)
- ENGR 110L  Introduction to Engineering (2)
- DRFT 100  Computer Aided Drafting I (4)
- Elective  Lower Division Engineering or Tech (3)
- FYE 100  First year Experience (3)

**Second Semester (15 cr)**
- ENG 111  English Composition I (3)
- EECE 152L  Computer Programming I (3)
- Elective  Lower Division Engineering or Tech (3)
- Elective  Lower Division Engineering or Tech (3)
- Elective  Lower/Upper Division Engineering or Tech (3)

**Third Semester (15 cr)**
- MATH 162E  Calculus I for Engineers (4)
- PHYS 215/L  Engineering Physics I with Lab (4)
- EET 200/L  Electrical Systems I with Lab (4)
- Elective  Lower/Upper Division Engineering or Tech (3)

**Fourth Semester (17 cr)**
- MATH 163E  Calculus II for Engineers (4)
- MET 201  Applied Mechanics I (3)
- ENG 116  Technical Writing (3)
- EET 300/L  Electrical Systems II with Lab (4)
- SBS  Elective (3)

**Fifth Semester (16 cr)**
- EET 400/L  Control Systems and Instrumentation with Lab (4)
- MET 302  Strength and Properties of Materials (3)
- MET 301  Applied Mechanics II (2)
SPCH 130 Public Speaking (3)
Elective Laboratory Science Elective (4)

Sixth Semester (17 cr)
- MET 420 Thermal-Fluid Engineering (4)
- HFA Elective (3)
- EMET 400 Advanced Electro-Mechanical Design (3)
- MET 310 Manufacturing Processes and Automation (3)
- ENGR 480 Engineering Management and Project Management (4)

Seventh Semester (15 cr)
- Second Language (3)
- EMET 490 Capstone I (3)
- EECE 472 PV Devices (3)
- MET 421 Heat Transfer (3)
- ECON 201 Microeconomics (3)
  or
- ECON 200 Macroeconomics (3)

Eight Semester (12 cr)
- ME 403 Solar Thermal Applications (3)
- EECE 453 Electric Energy Storage Devices (3)
- EMET 491 Capstone II (3)
- SBS Elective (3)

Bachelor of Engineering (BEng)
MECHANICAL ENGINEERING
Solar Energy Concentration

The curriculum of the BEng in Mechanical Engineering is designed for those engineering students who intend to launch a career in the design, installation, maintenance and repair of solar energy conversion and storage devices, modules and systems used for alternative energy sources or controllers. Coursework in the program is practice-oriented and prepares students to work in a variety of green technology engineering organizations, small or large businesses, product design or manufacturing companies, and alternative energy consultancies and public policy agencies.

The breadth of training in hardware, software, power engineering, troubleshooting equipment and other technological tools will enable the graduate to work in a variety of roles in such environments as an electric grid engineer, a power engineering network designer, and alternative energy engineer or a project manager. The graduate of this curriculum will be a professional engineering specialist in solar energy power sources, but broadly versed in mathematics, physics, general design, computer science, and business fundamentals.

Failure to maintain an overall GPA of 2.00 or better in all coursework will be sufficient cause for being dropped from the program.
The program objectives are the following:

1. Graduates will be situated in growing careers involving design, development, and support of Mechanical Engineering and Solar Energy Systems.
2. Graduates will perform effectively both individually and in teams.
3. Graduates will demonstrate involvement in high-level technical and leadership roles.
4. Graduates will accumulate the technical expertise to remain globally competitive.

Completion of this program should result in the following student outcomes:

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to design and conduct experiments, as well as to analyze and interpret data
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
4. An ability to function on multidisciplinary teams
5. An ability to identify, formulate, and solve engineering problems
6. An understanding of professional and ethical responsibility
7. An ability to communicate effectively
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
9. A recognition of the need for, and an ability to, engage in life-long learning
10. Knowledge of contemporary issues
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

GENERAL EDUCATION (60 CR)

Area I. Communications (9 cr)

ENG 111  English Composition I (3)
ENG 116  Technical Writing (3)
SPCH 130  Public Speaking (3)

Area II. Mathematics (21 cr)

MATH 145  Introduction to Probability and Statistics (3)
MATH 162E  Calculus I (4)
MATH 163E  Calculus II (4)
MATH 264  Calculus III (4)
MATH 314  Linear Algebra with Applications (3)
MATH 316  Applied Ordinary Differential Equations (3)

Area III. Laboratory Sciences (12 cr)

CHEM 121/L  General Chemistry I with lab (4)
PHYS 215/L  Engineering Physics I with lab (4)
PHYS 216/L  Engineering Physics II with lab (4)
Area IV. Social/Behavioral Sciences (6-9 cr)

- ECON 201 Microeconomics (3)
- Elective (3-6)

Area V. Humanities and Fine Arts (6–9 cr)

- Second language (3)

Area VI. First Year Experience (3 cr)

- FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (71 CR)

Solar Energy and Storage (42 cr)

- ME 160L General Engineering Design I (3)
- ME 202 Engineering Statics (3)
- ME 301 Thermodynamics (3)
- ME 302 Mechanics of Materials (3)
- ME 306 Dynamics (3)
- ME 317 Fluid Mechanics (3)
- ME 318L Mechanical Engineering Lab (3)
- ME 320L Heat Transfer (4)
- ME 390 Power Systems (3)
- ME 403 Solar Thermal Applications (3)
- ME 495 Advanced Mechanical Engineering Design (3)
- ME 490 ME Capstone I (4) (WIC)
- ME 491 ME Capstone II (4)

Support Technologies (20 cr)

- ENGR 110L Introduction to Engineering (2)
- ENGR 120L Introductory Mathematics for Engineering Applications (4)
- EECE 152L Computer Programming I (4)
- EECE 203L Circuit Analysis I (4)
- EECE 453 Electric Energy Storage Devices (3)
- EECE 472 Photovoltaic Devices (3)

Electives (9 cr)

- Elective in ENGR/EECE/ME/MATH at 3XX/4XX-level (9)

TOTAL CREDITS: 131

SUGGESTED SEQUENCE OF COURSES

- HFA = Humanities & Fine Arts (Area V)
- SBS = Social/Behavioral Sciences (Area IV)

First Semester (16 cr)

- ENGR 120L Introductory Mathematics for Engineering Applications (4)
EECE 152L Computer Programming I (4)
ENGR 110L Introduction to Engineering (2)
FYE 101 First Year Experience (3)
HFA Elective (3)

Second Semester (17 cr)
ENG 111 English Composition I (3)
MATH 162E Calculus I (4)
PHYS 215/L Engineering Physics I with Lab (4)
ME 160L Gen. Engineering Design I (3)
MATH 145 Introduction to Probability and Statistics (3)

Third Semester (18 cr)
MATH 163E Calculus II (4)
PHYS 216/L Engineering Physics II with Lab (4)
ME 202 Engineering Statics (3)
CHEM 121/L General Chemistry I with Lab (4)
ECON 201 Microeconomics (3)

Fourth Semester (16 cr)
EECE 203L Circuit Analysis I (4)
ME 306 Dynamics (3)
SPCH 130 Public Speaking (3)
ENG 116 Technical Writing (3)
ME 302 Mechanics of Materials (3)

Fifth Semester (16 cr)
ME 301 Thermodynamics (3)
Second Language (3)
MATH 264 Calculus III (4)
MATH 316 Applied Ordinary Differential Equations (3)
HFA Elective (3)

Sixth Semester (18 cr)
ME 317 Fluid Mechanics (3)
ME 495 Advanced Mechanical Engineering Design (3)
ENGR/EECE/ME/MATH Elective in 3XX/4XX (3)
MATH 314 Linear Algebra with Applications (3)
SBS/HFA Elective (3)
EECE 472 PV Devices (3)

Seventh Semester (14 cr)
ME 390 Power Systems (3)
ME 320L Heat Transfer (4)
ME 490 Capstone I (4)
ME 318L Mechanical Engineering Lab (3)

Eighth Semester (16 cr)
Post Baccalaureate Certificate in
INFORMATION ENGINEERING TECHNOLOGY

The curriculum for the Post Baccalaureate Certificate in Engineering in Information Technology is a practice-oriented professional program, meant to extend students’ undergraduate education. The program will provide high-quality and affordable education to engineers who want to master their knowledge in networks used for critical data entry, transfer, retrieval, and management of information systems.

Coursework in the program is practice-oriented and prepares students to work as leaders in a variety of computer-intensive environments, such as technical organizations, small or large businesses, product design or manufacturing companies, and data-directed services. Coursework in the program consists of gateway courses towards pursuit of a master’s program in the field.

Completion of this program should result in the following student outcomes:

1. Graduates will have gained the theoretical and hands-on experience needed to pursue a Master’s Program in the field.
2. Graduates will encompass a deeper understanding of management solutions for professionals in information systems and information technology.
3. Graduates will excel in highly technical leadership roles.

Completion of this program should result in the following student outcomes:

1. An ability to apply knowledge of Information Engineering Technologies
2. An ability to function on multidisciplinary teams
3. An ability to communicate effectively
4. The ability to design, implement, provide, and supervise the security of facilities involved with the processing and transfer of information

PROGRAM REQUIREMENTS

Electrical, Electronic, and Computer Engineering (3 cr)

EECE 547 Routing and Switching (3)

Information Technology (9 cr)

IT 510 Information Assurance and Security (3)
IT 530 Network Administration (3)
IT 599 Topics in IT (3)

Support Technology (3 cr)

ENGR 578 Engineering Ethics (3)

TOTAL CREDITS: 15
PROGRAMS in  
CAREER and TECHNICAL EDUCATION

Associate of Applied Science  
ELECTRICAL TECHNOLOGY

This program prepares you for the more technical aspects of the electrician's trade with emphasis on jobs available in the government sector.

GENERAL EDUCATION (27 CR)

Area I. Communications (9 cr)
- ENG 111  English Composition I (3)
- ENG 116  Technical Writing (3)
- SPCH 130  Public Speaking (3)

Areas II and III. Mathematics/Computers/Laboratory Science (9 cr)
- ENGR 110L  Introduction to Engineering (2)
- ENGR 115  Basic Math for Engineering Applications (4)

Choose one of the following electives:
- BCIS 102  Computer Literacy (3)
- EECE 111  Introduction to Web Design (3)

Area IV. Social/Behavioral Sciences (3 cr)
Elective (3)  You must select courses from the approved list on page 27.

Area V. Humanities and Fine Arts (3 cr)
Elective (3)  You must select courses from the approved list on page 28.

Area VI. First Year Experience (3 cr)
- FYE 101  First Year Experience (3)

PROGRAM REQUIREMENTS (33 CR)

Electrical (33)
- ELEC 110  Introduction to Solar Electricity (1)
- ELEC 110L  Introduction to Solar Electricity Lab (2)
- ELEC 140  Electrical Theory I (3)
- ELEC 141  Electrical Code I (3)
- ELEC 142L  Residential Wiring Lab (6)
- ELEC 150  Electrical Theory II (3)
- ELEC 151  Electrical Code II (3)
- ELEC 152L  Commercial Wiring Lab (6)
- ELEC 160  Motor Controls (3)
- ELEC 160L  Motor Controls Lab (3)

TOTAL CREDITS: 60
SUGGESTED SEQUENCE OF COURSES

First Semester (14 cr)
- ENG 111 English Composition I (3)
- FYE 101 First Year Experience (3)
- ENGR 110L Introduction to Engineering (2)
- ELEC 140 Electrical Theory I (3)
- ELEC 110 Introduction to Solar Energy (1)
- ELEC 110L Introduction to Solar Energy Lab (2)

Second Semester (16 cr)
- ENGR 115 Basic Math for Engineering Apps (4)
- ELEC 150 Electrical Theory II (3)
- ELEC 141 Electrical Code I (3)
- ELEC 142L Residential Wiring Lab (6)

Third Semester (15 cr)
- Elective Computer courses (3)
- HFA Elective (3)
- ELEC 151 Electrical Code II (3)
- ELEC 152L Commercial Wiring Lab (6)

Fourth Semester (15 cr)
- SPCH 130 Public Speaking (3)
- ELEC 160 Motors Controls (3)
- ELEC 160L Motors Controls Lab (3)
- SBS Elective (3)
- ENG 116 Technical Writing (3)

Certificate
ELECTRICAL TECHNOLOGY

This program prepares you for entry-level employment as an electrician’s helper or an apprentice electrician. In addition, it prepares you to take the state examination for licensure as a journeyman electrician. You must attend on a full-time basis.

GENERAL EDUCATION (7-8 CR)

Communications (4 cr)
- ENG 108N Basic Composition I (4)

Mathematics (3-4 cr)
- MATH 100N (4) or a higher level math course (3)

PROGRAM REQUIREMENTS (24 CR)
- ELEC 140 Introduction to Electrical Theory (3)
- ELEC 141 Introduction to Electrical Code (3)
ELEC 142L Residential Wiring Lab (6)
ELEC 150 Electrical Theory (3)
ELEC 151 Electrical Code (3)
ELEC 152L Commercial Wiring Lab (6)

TOTAL CREDITS: 31-32

Associate of Applied Science
RENEWABLE ENERGY

This program will provide you with the skills necessary to enter environmental fields – the renewable energy, alternative technology, and construction industries. You will be capable of entering at supervisory or management internship levels or have the skills to establish a small, related business.

GENERAL EDUCATION (28 CR)

Area I. Communications (9 cr)
- ENG 111 English Composition I (3)
- ENG 116 Technical Writing (3)
- SPCH 130 Public Speaking (3)

Areas II and III. Mathematics/Computers/Laboratory Science (10 cr)
- ENGR 110 Introduction to Engineering (2)
- ENGR 120L Introduction to Mathematics for Engineering Applications (4)
  Choose one of the following electives:
- PHYS 121/L Applied Physics I with lab (4)
- PHYS 215L Engineering Physics I with lab (4)

Area IV. Social/Behavioral Sciences (3 cr)
  Elective (3)  Select courses from the approved list on page 27.

Area V. Humanities and Fine Arts (3 cr)
  Elective (3)  Select courses from the approved list on page 28.

Area VI. First Year Experience (3 cr)
- FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (33-35 CR)

General (3 cr)
- RE 103 Renewable Energy Introduction and Overview (3)

Solar Heating (8 cr)
- ADOB 107 Passive Solar Heating (3)
- RE 108 Active Solar Heating (3)
- RE 108L Active Solar Heating Lab (2)
Renewable Electric and Electronics (20 cr)

ELEC 100/L Introduction to Solar Electricity/Lab (3)
ELEC 140 Electrical Theory I (3)
ELEC 141 Electrical Code I (3)
ELEC 150 Electrical Theory II (3)
ELEC 151 Electrical Code II (3)
ELEC 190 Solar and Wind Systems in the Electric Code (2)
RE 111 Beginning Photovoltaic Installation (3)

Renewable Electric and Electronics Electives (2-4)

Choose one of the following electives:

RE 127 Geothermal Systems for Heat and Power (4)
RE 128 Biomass Systems for Heat, Power, and Cogeneration (4)
RE 129 Trends and Emerging Energy Sources (2)
RE 160 Renewable Electric Power Systems (3)
RE 207 Wind Electric System Design and Installation (4)
RE 208 Photovoltaic System Design and Installation (4)
RE 212 Advanced Photovoltaic Installation (3)

TOTAL CREDITS: 61-63

SUGGESTED SEQUENCE OF COURSES

First Semester (14 cr)

ENG 111 English Composition I (3)
FYE 101 First Year Experience (3)
ENGR 110L Introduction to Engineering (2)
ELEC 140 Electrical Theory I (3)
RE 103 Renewable Energy Introduction and Overview (3)

Second Semester (16 cr)

ELEC 110 Introduction to Solar Energy (1)
ELEC 110L Introduction to Solar Energy Lab (2)
ENGR 115 Basic Math for Engineering Apps (4)
ELEC 150 Electrical Theory II (3)
ELEC 141 Electrical Code I (3)
ADOB 107 Passive Solar Heating (3)

Third Semester (15 cr)

ELEC 151 Electrical Code II (3)
ELEC 190 Solar and Wind Systems in Electric Code (2)
ENG 116 Technical Writing (3)
PHYS Elective (4)
RE 111 Beginning Photovoltaic Installation (3)
### Fourth Semester (16-18 cr)

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<td>SPCH</td>
<td>130</td>
<td>Public Speaking</td>
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<td>RE</td>
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<td>RE</td>
<td>108</td>
<td>Active Solar Heating</td>
<td>3</td>
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<td>Solar Energy Lab</td>
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<td>SBE</td>
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<td>Elective</td>
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<tr>
<td>HFA</td>
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<td>Elective</td>
<td>3</td>
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</tbody>
</table>
College of NURSING and HEALTH SCIENCES

The College of Nursing & Health Sciences offers certificates and degrees in the areas of Allied Health, and Nursing. Degrees offered include: Associate of Applied Science in Allied Health, Certificate of Practical Nursing, Associate of Applied Science in Nursing, and Bachelor of Science in Nursing (RN to BSN).

Note: In 2014, Northern completed a review of the total credit hours required to earn an associate and bachelor’s degree, leading to a reduction of required hours to 60 and 120 respectively for most degrees. Due to accreditation requirements and other industry regulations, some degrees may require additional hours.

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Dean  
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ASSOCIATE DEGREE NURSING PROGRAM

Theresa Lopez, MSN, CNE  
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RN TO BSN NURSING PROGRAM

Darlene Hess, PhD  
Associate Director  
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Associate of Applied Science

ALLIED HEALTH

This program provides basic courses designed for maximum transfer to satisfy the requirements for pre-professional allied health programs at four-year institutions, as well as entry-level employment in the health care field for those who choose a career in the area of Nurse Aide.

GENERAL EDUCATION (32 CR)

Area I. Communications (6 cr)

<table>
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<td>ENG 111</td>
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Choose one of the following courses:

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<td>English Composition II</td>
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<td>ENG 116</td>
<td>Technical Writing</td>
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<tr>
<td>SPCH 130</td>
<td>Public Speaking</td>
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</table>
Area II and III. Mathematics (3 cr)

Choose one of the following courses:

- MATH 130 Intermediate Algebra (3)
- MATH 145 Introduction to Probability and Statistics (3)
- MATH 150 College Algebra (3)

Area III. Laboratory Sciences (8 cr)

- BIOL 237/L Human Anatomy & Physiology I with lab (4)
- BIOL 238/L Human Anatomy & Physiology II with lab (4)

Area IV. Social/Behavioral Sciences (6 cr)

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

Area V. Humanities (6 cr)

Electives (6)

Area VI. First Year Experience (3 cr)

- FYE 101 First Year Experience (3)

PROGRAM REQUIREMENTS (30 CR)

- BCIS 102 Computer Literacy (3)
- NURS 100/L Nurse Aide with lab (5)
- HSCI 125 Medical Terminology (2)
- HSCI 204 Nutrition (3)
- PSY 290 Developmental Psychology (3)
- SPAN 230 Spanish for the Health Professions (3)
- PSY or SOC elective (3)

Electives: HSCI or Laboratory Science electives (8)

TOTAL CREDITS: 62

Associate Degree in Nursing Program (ADN)

Northern offers a rigorous, evidence-based five semester associate degree in nursing curriculum. The ADN program is approved by the State of New Mexico Board of Nursing (Certificate #36-401).

Northern’s Associate Degree in Nursing (ADN) Program is a full-time program of nursing studies with a licensed practical nurse (LPN) step-out option. The mission of the ADN program is to provide an affordable, quality, community-based nursing education that prepares registered nurses to provide safe, quality patient centered care to individuals and populations across the lifespan.

The ADN program has only one curriculum for all students accepted into the program. Once a student has completed the required pre-requisite courses and has been formally accepted into the program, the nursing curriculum is delivered over four semesters. Graduates of the ADN program obtain an Associate of Applied Science Degree in Nursing.
There is a Practical Nurse Certificate option after successful completion of the first three semesters of nursing course work. During the third semester of nursing courses, students may opt to take one additional nursing course (NURS 119) and receive a Practical Nurse Certificate. Students are then eligible to take the PN National Council Licensure Examination (NCLEX-PN). Students may exit the program at this time or continue on with the fourth semester nursing courses.

Upon successful completion of the second year nursing courses (level II) students receive an Associate of Applied Science Degree in Nursing and are eligible to take the RN National Council Licensure Examination exam (NCLEX-RN).

Graduates of the ADN program are prepared to continue toward completion of a Bachelor of Science in Nursing.

Admission to Northern does not ensure admission to the ADN program. Program capacity requires limited enrollment. Applicants are rank-ordered based on cumulative points earned on selection criteria.

The ADN program is demanding and requires a full-time commitment, extensive study time outside the classroom, and occasional travel outside the area. Because of the rigorous nature of the program, limited employment is recommended.

Due to the rapidly changing nature of the health care system as well as state-mandated changes, the ADN program faculty review and revise the curriculum on an ongoing basis. Changes can be anticipated regarding admission requirements, course requirements, and program policies. Students are advised to seek initial and ongoing advisement from the program director or a nursing advisor.

EMPLOYMENT OPPORTUNITIES

Graduates from the ADN program are prepared to enter nursing practice at the advanced beginner level. Areas of employment include acute care facilities, long-term care, home health care, physician’s offices, clinics, schools, and other settings.

ADDITIONAL REQUIREMENTS RELATING TO LICENSURE

The New Mexico State Board of Nursing has restrictions for licensure and may deny, revoke, or suspend any license applied for upon grounds of particular felony violations. Northern assumes no responsibility for the denial of licensure by the New Mexico Board of Nursing or any state Board of Nursing.

Federal law requires certain health care agencies to conduct criminal background checks on their employees. This requirement may be mandated for nursing students placed in these health care facilities for clinical training. Behaviors which may be cause for a student being ineligible for clinical placement include, but are not limited to, the following: physical or sexual abuse, theft, illegal use of weapons, and illegal use or possession of controlled substances.

ADMISSION REQUIREMENTS FOR THE ADN PROGRAM

1. Graduation from high school or GED
2. Cumulative GPA of 2.50 or higher
3. A minimum total individual score of 67% on the KAPLAN pre-admission examination.
4. A minimum individual score of 73% in reading on the KAPLAN pre-admission examination.
5. A minimum individual score of 55% in science on the KAPLAN pre-admission examination.
6. Submission of a completed nursing application packet by April 30th for fall admission consideration.
7. Completion of the following pre-requisite course work by the end of the spring semester prior to anticipated entry into the ADN program with a grade of “C” or better:
   
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 110/L (4) or BIOL 210/L (4) or any other BIOL (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 237/L (4)</td>
<td></td>
<td></td>
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<tr>
<td>PSY 105 (3)</td>
<td></td>
<td></td>
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<tr>
<td>ENG 111 (3)</td>
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</table>

*Note:*
- Anatomy and Physiology Courses must be completed within five (5) years prior to entry into the ADN program.
- All nursing students are expected to have basic computer skills including word processing and internet access.
- All nursing students must have and maintain current American Heart Association Basic Life Support (CPR) certification and current immunizations prior to participating in clinical nursing courses.
- Requirements for KAPLAN admission test scores, both total and content-specific, are subject to change.
- Formal application and acceptance into the nursing program is required before students may enroll in any NURS-prefixed courses listed in the program requirements. Support courses may be taken before entry into the program.

**TRANSFER STUDENTS**

Students transferring to the Associate Degree in Nursing Program are subject to the same admission and progression requirements as all nursing students. The Registrar and nursing faculty will evaluate transcripts, course syllabi, and course outlines to determine eligibility and placement status. Potential students must have completed all transfer courses with a grade of “C” or better. Students must complete their last 15 credit hours at Northern in order to graduate.

For more information please contact:
ADN Program Administrative Assistant
505.747.2207, or

Theresa A. Lopez, MSN, RNC, CNE
Associate Degree in Nursing Program Director
talopez@nnmc.edu or 505.747.2282
Certificate
PRACTICAL NURSING

Students who complete the pre-requisites and the first three semesters of nursing course work for the ADN Program as well as NURS 119 Role Transition-PN have the option to petition for the Certificate in Practical Nursing. Students may exit the program at this time or continue on to completion of the fourth semester of nursing course work.

GENERAL EDUCATION (24 CR)

Area I. Communications (3 or 6 cr)

Required: (3)

ENG 111 English Composition I (3)
An additional 3 credits must be taken either in Communications or Humanities and Fine Arts

Area II and III. Mathematics/Computers/Lab Science (12 cr)

Choose a minimum of 4 credits from the following:

- Biology (4)
- Chemistry (4)
- Microbiology (4)

Required (8):

BIOL 237/L Human Anatomy & Physiology I with Lab (4)
BIOL 238/L Human Anatomy & Physiology II with Lab (4)

Area IV. Social/Behavioral (6 cr)

PYS 105 General Psychology (3)
PYS 290 Developmental Psychology (3)

Area V. Humanities and Fine Arts (0 or 3 cr)

3 credits of Humanities and Fine Arts may be taken in place of the additional 3 credits in Communications

PROGRAM REQUIREMENTS (38 CR)

NURS 106 Pharmacology (3)
NURS 113 Nursing Fundamentals (4)
NURS 113L Nursing Fundamentals Lab (2)
NURS 114L Health Assessment (2)
NURS 125 Medical/Surgical Nursing I (3)
NURS 125L Medical/Surgical Nursing I Clinical (3)
NURS 214 Psychiatric/Mental Health Nursing (2)
NURS 214L Psychiatric/Mental Health Nursing Clinical (1)
NURS 217 Maternal/Newborn Nursing (2)
NURS 217L Maternal/Newborn Nursing Clinical (1)
NURS 218 Pediatric Nursing (2)
NURS 218L  Pediatric Nursing Clinical (1)
NURS 225  Medical/Surgical Nursing II (3)
NURS 225L  Medical/Surgical Nursing II Clinical (3)
NURS 245  Pathophysiology (4)
NURS 119  Role transition-PN (2)

TOTAL CREDITS: 62

SEQUENCE OF COURSES

<table>
<thead>
<tr>
<th>Semester 1 (Fall) 15 cr</th>
<th>Semester 2 (Spring) 16 cr</th>
<th>Semester 3 (Fall) 14 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 113/L (6)</td>
<td>NURS 125/L (6)</td>
<td>NURS 217/L (3)</td>
</tr>
<tr>
<td>NURS 106 (3)</td>
<td>NURS 214/L (3)</td>
<td>NURS 218/L (3)</td>
</tr>
<tr>
<td>NURS 114L (2)</td>
<td>NURS 245 (4)</td>
<td>NURS 225/L (6)</td>
</tr>
<tr>
<td>BIOL 238/L (4)</td>
<td>PSY 290 (3)</td>
<td>NURS 119 (2)</td>
</tr>
</tbody>
</table>

Associate Degree
NURSING Curriculum

Students who pursue the Associate Degree in Nursing will receive an Associate of Applied Science in Nursing degree.

Associate of Applied Science (AAS)
NURSING

GENERAL EDUCATION (24 CR)

Area I. Communications (3 or 6 cr)
Required: (3)

ENG 111  English Composition I (3)
An additional 3 credits must be taken either in Communications or Humanities and Fine Arts

Area II and III. Mathematics/Computers/Lab Science (12 cr)
Choose a minimum of 4 credits from the following:

- Biology (4)
- Chemistry (4)
- Microbiology (4)

Required (8):
- BIOL 237/L  Human Anatomy & Physiology I with Lab (4)
- BIOL 238/L  Human Anatomy & Physiology II with Lab (4)

Area IV. Social/Behavioral (6 cr)

PYS 105  General Psychology (3)
PYS 290  Developmental Psychology (3)
Area V. Humanities and Fine Arts (0 or 3 cr)

3 credits of Humanities and Fine Arts may be taken in place of the additional 3 credits in Communications

PROGRAM REQUIREMENTS (44 CR)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NURS 106</td>
<td>Pharmacology</td>
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</tr>
<tr>
<td>NURS 113</td>
<td>Nursing Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>NURS 113L</td>
<td>Nursing Fundamentals Lab</td>
<td>2</td>
</tr>
<tr>
<td>NURS 114L</td>
<td>Health Assessment</td>
<td>2</td>
</tr>
<tr>
<td>NURS 125</td>
<td>Medical/Surgical Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>NURS 125L</td>
<td>Medical/Surgical Nursing I Clinical</td>
<td>3</td>
</tr>
<tr>
<td>NURS 214</td>
<td>Psychiatric/Mental Health Nursing</td>
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<td>NURS 214L</td>
<td>Psychiatric/Mental Health Nursing Clinical</td>
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<td>NURS 217</td>
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<tr>
<td>NURS 217L</td>
<td>Maternal/Newborn Nursing Clinical</td>
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</tr>
<tr>
<td>NURS 218</td>
<td>Pediatric Nursing</td>
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<td>NURS 218L</td>
<td>Pediatric Nursing Clinical</td>
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<tr>
<td>NURS 225</td>
<td>Medical/Surgical Nursing II</td>
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<tr>
<td>NURS 225L</td>
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<td>NURS 235</td>
<td>Medical/Surgical Nursing III</td>
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<tr>
<td>NURS 235L</td>
<td>Medical/Surgical Nursing III Clinical</td>
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<tr>
<td>NURS 240</td>
<td>Role Transition/RN</td>
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<tr>
<td>NURS 245</td>
<td>Pathophysiology</td>
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</tbody>
</table>

TOTAL CREDITS: 68

SEQUENCE OF COURSES

YEAR I LEVEL I

Fall Semester (15 cr)       Spring Semester (16 cr)
NURS 113/L (6)              NURS 125/L (6)
NURS 106 (3)                NURS 214/L (3)
NURS 114L (2)               NURS 245 (4)
BIOL 238/L (4)              PSY 290 (3)

YEAR II LEVEL II

Fall Semester (12 cr)       Spring Semester (11 cr)
NURS 217/L (3)              NURS 235/L (6)
NURS 218/L (3)              NURS 240 (2)
NURS 225/L (6)              Humanities or Communications (3)

TOTAL CREDITS: 68
RN to BSN
NURSING PROGRAM

The RN to BSN Nursing Program is designed for and limited to individuals who are licensed as registered nurses (RN) in the United States. This Program is designed to articulate with many two-year Associate Degree Nursing (ADN) programs. The RN to BSN Program prepares registered nurses to assume leadership roles as an integral nurse at the bedside, within an organization, in the community, and in the profession. The Program provides a unique and innovative nursing curriculum that is based upon the Theory of Integral Nursing. Through its integrative care focus, this Program prepares nurses to provide holistic, intentional, relationship-centered care that addresses individual and collective health.

The Program requires 120-122 credit hours for graduation. Thirty-four credits of lower-division courses, to include nursing courses from an Associate Degree in Nursing program, may be applied toward the BSN degree. Students must then complete a total of forty credits of upper-division courses: 32 nursing credits and 8 elective credits with a Nursing (NURS) prefix, Integrative Health Studies (IHS) prefix, or other approved upper division course(s).

GENERAL EDUCATION (39 CR)

Area I. Communications (9 cr)
- ENG 111 English Composition I (3)
- SPCH 130 Public Speaking (3)

Choose one of the following courses:
- ENG 112 English Composition II (3)
- ENG 116 Technical Writing (3)

Area II. Mathematics (3 cr)
- MATH 145 Introduction to Probability & Statistics (3)

Area III. Laboratory Science (12 cr)
- BIO 210 Microbiology (3)
- BIOL 210L Microbiology Lab (1)
- BIOL 237 Human Anatomy & Physiology I (3)
- BIOL 237L Human Anatomy & Physiology I Lab (1)
- BIOL 238 Human Anatomy & Physiology II (3)
- BIOL 238L Human Anatomy & Physiology II Lab (1)

Area IV. Social/Behavioral Sciences (6-9 cr)
- PSY 105 General Psychology (3)
- PSY 290 Developmental Psychology (3)

*If you choose to take a third course in this discipline, it must be from a discipline other than PSY. If you choose a third course from this area, you need only complete two (6 cr) of the Humanities and Fine Arts courses.*
- ANTH 101/L Physical Anthropology with Lab (4)
- ANTH 102 Introduction to Social/Cultural Anthropology (3)
ANTH 110  Indian Cultures of the Southwest (3)
ANTH 207  Cultures of New Mexico (3)
ECON 200  Macroeconomics (3)
ECON 201  Microeconomics (3)
GEOG 111  World Geography (3)
HSS 311  Readings in the Social Sciences (4)
HSS 414  Humanity and Creativity* (4)
HSS 421  History, Literature, Art, and Philosophy
PSCI 110  The Political World
PSCI 120  Contemporary Political Issues
PSCI 200  American Politics
PSCI 210  State and Local Government
PSCI 212  The American Presidency
PSY 105  General Psychology (3)
PSY 210  Theories of Personality (3)
PSY 229  Adolescent Psychology (3)
PSY 230  Psychology of Adjustment (3)
PSY 232  Abnormal Behavior (3)
PSY 270  Social Psychology (3)
PSY 290  Developmental Psychology (3)
SOC 101  Introduction to Sociology (3)
SOC 213  Deviant Behavior (3)
SOC 216  Ethnic and Intercultural Relations (3)
SOC 220  Social Problems (3)
SOC 225  Marriage and the Family (3)

Plus, topic courses with student advisor’s approval

Area V. Humanities and Fine Arts (6-9 cr)

 Required: Second Language (3 cr)
 Elective (3)

You must select courses from at least two different discipline areas from the following:

ART 105  Introduction to Art
ART 107  History of Art I
ART 208  History of NM Art & Arch. I
ART 211  History of Art II
DANC 240  Dance Appreciation
ENG 270  Children’s Literature
ENG 262  Literature of the Southwest
ENG 265  Native American Literature I
ENG 266  Native American Literature II
ENG 280  Readings in Literature
ENG 290  Study of Literature
ENG 294  Mythology
HIST 101  Western Civilization I
HIST 102  Western Civilization II
HIST 161 History of U.S. to 1887
HIST 162 History of U.S. from 1887
HIST 200 History of World Religions
HIST 220 Southwestern Women’s History
HIST 230 Chicano Experience in the US
HIST 250 American Indian History
HIST 260 History of New Mexico
HUM 101 Humanities I
HUM 102 Humanities I
HUM 105 Humanities and the Southwest
HUM 311 Readings in the Social Sciences
HUM 414 Humanity and Creativity
HUM 421 History, Literature, art, and Philosophy
MUS 103 Music History & Literature I
MUS 105 Music Appreciation
MUS 218 Music History & Literature II
PHIL 110 Introduction to Philosophical Problems
PHIL 111 History of Philosophy
PHIL 150 Critical Thinking
PHIL 220 Ethics
PIS 200 Introduction to Pueblo Indian Studies
THE 120 Introduction to Theatre I
THE 130 History of Theatre

*Plus, topic courses with student advisor’s approval.*

**REQUIRE** **D** **LOW** **ER**-**DIV** **ISION** **COUR** **SE** **WORK**

Thirty-four credits of lower-division courses, to include nursing courses from ADN program, will be applied toward the BSN degree.

**SUPPORT COURSES (7-9 CR)**

Four-six (6) credits of Pathophysiology (can be lower-or upper division courses).

- HSCI 204 Nutrition (3)
- NURS 343 Pathophysiology I (3) (or its equivalent)
- NURS 344 Pathophysiology II (3) (or its equivalent)

**RN TO BSN PROGRAM CURRICULUM**

A minimum of 40 credits of upper-division courses must be completed, to include 32 credits of required upper-division nursing courses and 8 credits of upper division electives.

NURS 400 Nursing in Transition and NURS 401 Integral Nursing Theory must be the first two courses taken in the curriculum. They may be taken concurrently with the following courses: NURS 410 An Integral Approach to Evidence-Based Practice; NURS 420 Integral Health Assessment; NURS 430 Complementary and Alternative Therapies in Nursing; NURS 440 Health Issues, Policy and Politics in Health Care;
NURS 450 Community and Global Health I. NURS 480 Integral Nursing Capstone Course is the last course taken in the program.

- NURS 400 Nursing in Transition (2)
- NURS 401 Integral Nursing Theory (3)
- NURS 410 An Integral Approach to Evidence-Based Practice (3)
- NURS 420 Integral Health Assessment (3)
- NURS 430 Complementary and Alternative Therapies in Nursing (3)
- NURS 440 Health Issues, Policy and Politics in Health Care (3) (WIC)
- NURS 450 Community and Global Health I (3)
- NURS 451 Community and Global Health II (4)
- NURS 460 Integral Communication and Teaching (2)
- NURS 470 Transformational Leadership in Nursing (4)
- NURS 480 Integral Nursing Capstone Course (2)
- Electives 8 credits of upper-division electives with a NURS or IHS prefix, or other approved upper division course(s).

TOTAL CREDITS: 120-122
(INCLUDES A TOTAL OF 135 CLINICAL HOURS)
Notes:
Course Descriptions

1. Freshman courses are numbered 100-199; sophomore courses numbered 200-299; junior courses numbered 300-399; senior courses numbered 400-499, and graduate courses numbered 500-599. Lower-division topic courses are number 147 and 247; upper-division topic courses are numbered 399 and 499.

2. Courses labeled with an “N” immediately after the course number are considered to be remedial in nature and will not be accepted to fill the requirements for any degree at Northern. Remedial courses will normally not transfer to other colleges.

3. Courses designated with WIC are Writing Intensive Courses required for a bachelor’s degree. See page 28 for more information.

4. No course with a grade of less than a C or CR (as appropriate) will be accepted for graduation.

5. Any course which is designated as a prerequisite to another course must be passed with at least a grade of C or CR (as appropriate) in order to proceed to the next level course.

6. Immediately after the course description appears an entry inside parentheses. This number is read in two parts. For example, (3, 1T+2S) is read as: course value = 3 credits; 1 credit of theory, 2 credits of activity/shop/studio. If the course were a laboratory, it might read (1, 0T+1L). Each credit of theory (T) requires the equivalent per week of 50 minutes of instructional time; each credit of shop/activity (S) requires 100 minutes per week; and each credit of laboratory (L) requires 150 minutes per week. Therefore, an entry of 3, 1T+2S would be scheduled to meet a total of 250 minutes per week of instructional time. These calculations refer to a course offered over a full sixteen-week semester. The amount of time per week for a course offered over a shorter period of time is increased to meet the required time in a shorter period.

7. Courses listed in this catalog are subject to change or deletion through normal academic channels. New courses and changes in existing course work are initiated by the responsible department chairperson, approved by the faculty curriculum committee, the faculty senate, and the Provost.

ANTHROPOLOGY (ANTH)

Note: Each course in this department bears a Prerequisite of ENG 109N or an adequate score on the Course Placement Evaluation.

101  PHYSICAL ANTHROPOLOGY  You will cover the principles of human biology applicable to paleoanthropology and organic evolution of primates. Co-requisite: ANTH 101L. (3, 3T+0S)

101L PHYSICAL ANTHROPOLOGY LAB  You will apply and demonstrate the principles of primate and human evolution. Co-requisite: ANTH 101. (1, 0T+1L)

102  INTRODUCTION TO SOCIAL AND CULTURAL ANTHROPOLOGY  You will survey the disciplines of social and cultural anthropology, including culture, language, enculturation, subsistence patterns, economics, marriage, kinship, social groups, political systems, religion, art, and culture change. (Fall only) (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area IV Social/Behavioral Sciences (NMCCN ANTH 2113)

110  INDIAN CULTURES OF THE SOUTHWEST  You will study the cultures of the indigenous peoples of the Southwest, including cultural patterns relative to agriculture, religion, arts, tribal governance, economics, etc., including both pre- and post-Columbian periods. (3, 3T+0S)
ART

111 LANGUAGE AND CULTURE You will study the historical and descriptive linguistics, with emphasis on linguistic theory and on the interrelationship between language and culture. Prerequisite: ENG 109N. (3, 3T+0S)

207 CULTURES OF NEW MEXICO You will study the contemporary cultural and ethnic groups of New Mexico, including Native American, Hispanic, Anglo, and others. Prerequisite: ENG 109N. (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area IV Social/Behavioral Sciences (NMCCN ANTH 2313)

210 SOUTHWESTERN FOLKLORE You will survey the expressive culture systems such as art, music, architecture, religion, and space/time orientation of the predominant Southwestern cultures. (3, 3T+0S)

ART (ART)

All studio courses may be repeated without penalty; however, no course may be counted more than once toward graduation requirements.

100 INTRODUCTION TO BASIC WOODCARVING You will carve one small project and, in the process, learn the basic techniques of woodcarving and safety. (1-2, .5-1T+.5-1S)

101 INTERMEDIATE WOODCARVING Using more advanced techniques than learned in ART 100, such as hand-tool usage, carving techniques, and safety, you will produce two small projects. (1-2, .5-1T+.5-1S)

105 INTRODUCTION TO ART You will study basic problems in the understanding and criticism of painting, sculpture, and architecture in Western and non-Western cultures from pre-historic to present time; introduction to basic terminology of the arts and to the language of stylistic criticism; relationships of the arts to each other and their historical background. Includes museum/gallery visits when relevant. Prerequisite: ENG 109N. (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN ART 1113)

107 HISTORY OF ART 1 You will study the development of Western art from pre-historic times to the Renaissance through slides, videos, lectures, readings, discussions, and analysis. Prerequisite: ENG 109N. (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN ART 1123)

110 DRAWING 1 You will study the basic materials and mechanics of drawing, with an emphasis on the development of descriptive and perceptual skills. You will also study line, value, mass, texture, and shape as applied to still life, landscape, and the human figure. (3, 1T+2S)

115 TRADITIONAL WOODCARVING You will study the basic methods of woodcarving, including the use and care of tools. Layouts, processes, and techniques are demonstrated with an emphasis on traditional New Mexico styles. (3, 1T+2S)

120 PAINTING 1 You will learn acrylic painting techniques, including color and pictorial space, still life, landscape, figure, and the abstract. (3, 1T+2S)

122 ELEMENTS OF DESIGN IN ART You will study traditional two- and three dimensional design elements as they apply to the creation of art in all media. (3, 1T+2S)

123 BASIC BULTO MAKING You will learn the basic techniques for carving and painting bultos in the northern New Mexico style. (1-2, .5-1T+.5-1S)

129 BASIC TINSMITHING You will learn the elementary techniques of designing, cutting, punching, and embossing tin in the northern New Mexico style. (1-2, .5-1T+.5-1S)
130  **TINSMITHING I** You will study the basic techniques of punching, embossing, cutting, and designing in the tradition of northern New Mexico. (3, 1T+2S)

152  **TRADITIONAL SPANISH COLONIAL RETABLO MAKING** You will look at traditions in iconography: European traditions, New World, and New Mexico styles beginning with hide paintings, oil-on-panel retablos, and works from the colonial periods. You will create retablos based on these various styles. (3, 1T+2S)

157  **RETABLO MAKING** You will create retablos in the northern New Mexico style by choosing appropriate wood, paint, and hand-made materials such as gesso and pinon varnish. (1-2, .5-1T+.5-1S)

158  **BULTO MAKING** You will study the basic techniques for carving and painting bultos in the northern New Mexico style. (3, 1T+2S)

160  **POTTERY I** You will study hand-built and wheel-thrown pottery, learning various hand-building methods for pinch, coil, and slab-constructed ceramic forms. You will also study wheel-throwing methods for making basic utilitarian ceramic items, including glaze decoration and electric kiln firing of stoneware pottery. (3, 1T+2S)

170  **PHOTOGRAPHY I** You will learn how to use a 35mm camera. You will also learn basic film exposure, film development, and printing of film. (3, 1T+2S)

173  **MURAL PAINTING** You will use acrylic paints to create murals on interior walls, making preparatory drawings, after group development and discussion of the concepts and ideas for each space. (3, 1T+2S)

180  **MICACEOUS POTTERY I** You will use micaceous clay to form utilitarian vessels with the coil and scrape method to make bowls, bean pots, pitchers, cups, and lidded jars. You will decorate by incising or appliqué and wood-fire pottery in the traditional manner. (3, 1T+2S)

185  **SOUTHWEST CRAFTS** You will become familiar with all the crafts from the Southwest, their value and cultural background, the techniques employed in producing such crafts, and the history of their development. (3, 3T+0S)

200  **POTTERY GLAZE MAKING AND STUDIO PRACTICES** You will learn to make pottery glazes, how to fire a kiln, and how to maintain a production pottery studio. **Prerequisite:** ART 160. (1, 0.5T+0.5S)

208  **HISTORY OF NEW MEXICO ART AND ARCHITECTURE** You will explore the tricultural area of northern New Mexico through the history of art and architecture. You will learn about the arts, crafts, and architecture of New Mexico through slides, lectures, field trips, and guest speakers. **Prerequisite:** ENG 109N. (3, 3T+0S)

211  **HISTORY OF ART II** Continuation of ART 107 in which you will continue your study of Renaissance art to contemporary art through readings, slides, videos, discussions, and analysis. **Prerequisite:** ENG 109N. (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN ART 2113)

221  **DRAWING II** Continuation of ART 110, in which you will study advanced concepts and technical processes. **Prerequisite:** ART 110. (3, 1T+2S)

231  **TINSMITHING II** You will study advanced techniques of punching, embossing, cutting, and designing in the tinsmithing tradition of northern New Mexico. Your projects will include nichos, columns, sculpture, and chandeliers. **Prerequisite:** ART 130. (3, 1T+2S)

232  **PAINTING II** Continuation of ART 120, including advanced study of concepts and technical processes; encourages independent initiative. **Prerequisite:** ART 120. (3, 1T+2S)
233 PRINTMAKING I You will study the techniques of printmaking used in linocut, woodcut, engraving, dry point, and monotype. You will also study the history of printmaking and presentation of prints. (3, 1T+2S)

235 WATERCOLOR You will study transparent and opaque watercolor media, with emphasis on creative expression and techniques involving varied subject matter. (3, 1T+2S)

237 SCULPTURE You will study sculpture materials; basic consideration of form; technical and compositional exercises in clay, plaster, wood, and stone. (3, 1T+2S)

239 LIFE DRAWING You will draw the human figure from a life model, with emphasis on anatomy, gesture, and movement. Prerequisite: ART 110. (3, 1T+2S)

240 PORTRAIT PAINTING You will study the skills and techniques of portrait painting, with emphasis on facial structure and innovative color composition. Prerequisite: ART 120. (3, 1T+2S)

242 LIFE MODELING You will learn to construct an armature and model from life. (3, 1T+2S)

243 PRINTMAKING II In a continuation of ART 233, you will study more complex techniques for relief and intaglio, through projects including woodcut, etching/aquatint, chine-collé, and printing with color. You will continue your study of the history of printmaking and presentation of prints. Prerequisite: ART 233. (3, 1T+2S)

246 BOOK ARTS You will study the skills and techniques of book making, with emphasis on calligraphy and styles of format. (3, 1T+2S)

255 MATTING AND FRAMING PICTURES You will develop the skill necessary to mat and frame art work for gallery presentation, including paper mat color selection, mat cutting techniques, and selecting and cutting picture frames. (3, 1T+2S)

260 POTTERY II This is a continuation of ART 160, covering more complex methods for hand-building and wheel-throwing pottery. You will learn to combine building methods, form larger pieces and create more advanced wheel-thrown pottery. In addition, you will explore glazing techniques for stoneware pottery. Prerequisite: ART 160. (3, 1T+2S)

270 PHOTOGRAPHY II A continuation of ART 170 in which you will study advanced black and white techniques covering exposure, development, various films, and the use of filters, with special emphasis on tonal control through the creative use of the zone system; increased emphasis on personal vision, aspects of design, composition, and perception. Prerequisite: ART 170. (3, 1T+2S)

275 POTTERY III A continuation of ART 260 in which you will study advanced methods for hand-building and wheel throwing of pottery. You will have hands-on experience in kiln loading and glaze making. Prerequisite: ART 260. (3, 1T+2S)

280 MICACEOUS POTTERY II You will learn micaceous clay pottery in the tradition of northern New Mexico through a continuation of the techniques learned in ART 180. You will also experiment with advanced techniques of hand-building and out-door firing. Prerequisite: ART 180. (3, 1T+2S)

295 PHOTOGRAPHY III In this continuation of ART 270, which concentrates on advanced black and white printing, you will learn single filter printing, split filter printing, and high key printing. You will use fiber papers and various archival toning processes. Prerequisite: ART 270. (3, 1T+2S)

296 PHOTOGRAPHY PORTFOLIO To assist you in entering the world of professional photography, you will create your own portfolio with a strong emphasis on editing, content, printing, and presentation. You will engage in discussions on how to market your work to
enter graduate schools; includes publications, shows, and galleries. **Prerequisite:** ART 270. (3, 1T+2S)

**298 INTRODUCTION TO ALTERNATIVE PHOTOGRAPHIC PROCESSES** This course expands the traditional black and white photographic process. You will learn to use hand-applied emulsions using a variety of surfaces, including canvas. You will make cyanotypes, Van Dyke brown prints, and explore hand-coloring techniques. Pinhole cameras and plastic holgas will be available for creative projects. **Prerequisite:** ART 270. (3, 2T+1S)

The following courses are offered only at the POEH Cultural Center in Pojoaque and appear in this catalog for purposes of transfer of credit only:

**150 BASIC JEWELRY AND METAL WORKING** You will study jewelry and metalworking as they are practiced in New Mexico. (3, 1T+2S)

**155 PUEBLO EMBROIDERY** You will learn traditional pueblo embroidery techniques by creating a kilt or table runner. You will also learn to spin yarn, to develop designs, and to use a variety of embroidery techniques after studying the history of pueblo embroidery and clothing styles. (3, 1T+2S)

**156 PUEBLO SASH WEAVING** You will study the technique of pueblo sash weaving, including the construction of hand looms, warping, and weaving of a simple design. (3, 1T+2S)

**190 TRADITIONAL SILVER SMITHING** You will study the basic techniques of silversmithing, including cutting and joining silver, forging, gemstone setting, tufa casting, and sand casting. (3, 1T+2S)

**ASTRONOMY (ASTR)**

**110 INTRODUCTION TO ASTRONOMY** You will study the fundamentals of modern astronomy, including coverage of the physical and historical nature of the universe, with emphasis on stellar evolution, the Milky Way galaxy, and our solar system. **Prerequisite:** ENG 109N and MATH 100N. **Co-requisite:** ASTR 110L. (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN ASTR 1114 with lab)

**110L INTRODUCTION TO ASTRONOMY LAB** Laboratory experience to accompany ASTR 110. You will learn terrestrial and stellar observation, physical science laboratory exercises, and using the World Wide Web for accessing astronomy links. **Co-requisite:** ASTR 110. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN ASTR 1114 with lecture)

**BARBERING (BARB)**

Prerequisite for any Barbering course is completion of ENG 108N or adequate scores on the Course Placement Evaluation instrument.

**110 BARBERING I** This course presents an integrated study and overview of the demands of the profession and the self-discipline needed to succeed in the field of barbering. It includes concepts related to professional image, work ethic, professional standards, communication skills, infection control, and industry history. As this course requires both theory and lab, you will perform practical skills on mannequins. The course introduces you to state-required study in theory, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling, and shaving. **Prerequisites:** ENG 109, BA 117 (OA 117) (17, 7T+10S)
BIOLOGY

120  BARBERING II  This course is a continuation of Barbering I. You will perform practical skills on clients, while continuing your study in theory, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling and shaving. Prerequisite: BARB 110. (16, 5T+11S)

210  BARBERING III  This course is a continuation of Barbering II. You will perform practical skills on clients, while continuing your study in theory, salon business, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling, and shaving. Prerequisite: BARB 120. (15, 3T+12S)

222  BARBERING DIRECTED STUDY  This course is an independent clinical practice of all skills and knowledge learned in related courses. It is designed for students to make up missed state-required clock hours. It may be repeated once. Prerequisite: COSM 120 or 210 or 220. (6, 0T+6S)

230  COSMETOLOGY/BARBER REFRESHER  This course is designed for the cosmetologist or barber whose license has expired. You will complete a review of state laws and regulations, take mini-board exams (state laws and practical), and review all required cosmetology/barber course work. Prerequisite: proof of expired cosmetology/barber license. (Summer only) (10, 8T+2S)

BIOLOGY (BIOL)

110  CURRENT TOPICS IN BIOLOGY  You will study important current issues in biology, including changes in the biosphere, evolution, genetics, medical advances, and biotechnology. This course is suitable for non-science majors. Prerequisite: ENG 109N; Co-requisite: BIOL 110L. (3, 3T+0S). Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN BIOL 1114 with lab)

110L  CURRENT TOPICS IN BIOLOGY LAB  Co-requisite: BIOL 110. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN BIOL 1114 with lecture)

151  SCIENCE AND SOCIETY  You will examine the principles and practice of modern science and the relationship between science and technology in society. You will also focus on issues of biological science that relate to current political and social challenges and problems, using current topics as a way of understanding how knowledge and understanding impact on culture and society. This course is suitable for those who plan to major in biology. Prerequisite: ENG 111; Co-requisite: BIOL 151L. (3, 3T+0L)

151L  SCIENCE AND SOCIETY LAB  You will gain practical experience in learning about the scientific method with observations, evidence, and testing to address general biological and physical questions through testing assumptions using varied practical approaches and controlling for variability. Co-requisite: BIOL 151. (1, 0T+1L)

160  BIOTECHNOLOGY SEMINAR I  You will study the eight areas of modern biotechnology: microbial, agricultural, animal, forensic, aquatic, medical, regulatory, and bioremediation. Coursework includes discussion of the ethical, legal, and societal issues in biotechnology, as well as modern laboratory techniques. This course is suitable for science majors and non-majors, as well as those interested in career opportunities in the field. Prerequisites: BIOL 110/L or higher-level BIOL. Co-requisite: BIOL 160L. (Fall) (3, 3T+0L)

160L  BIOTECHNOLOGY LAB I  In this laboratory experience, you will study techniques focusing on proper protocols in record keeping, genomic and plasmid DNA isolation, determining DNA concentration by UV spectroscopy, cloning and sub-cloning, preparation of growth curves, measuring bacterial growth by viable counts and spectroscopy, restriction
mapping, enzyme assays, regulation of gene expression, cloning vectors, DBNA sequencing, preparation of DNA probes, and hybridization. **Co-requisite:** BIOL 160. (Fall) (1, 0T+1L)

**201 PRINCIPLES OF MOLECULAR AND CELL BIOLOGY** Through scientific methods, you will study the role of water in cell biology, carbon and molecular diversity, macromolecules, an introduction to metabolism, tour of cell structures and functions, membrane structure and function, cellular respiration, photosynthesis, cell communication, and the cell cycle. **Prerequisites:** CHEM 121/L and ENG 111; **Co-requisite:** BIOL 201L. (Fall only) (3, 3T+0L)

**201L PRINCIPLES OF MOLECULAR AND CELL BIOLOGY LAB** You will experiment with techniques and methods in molecular and cell biology to support concepts in lecture. **Co-requisite:** BIOL 201. (1, 0T+1L)

**202 PRINCIPLES OF GENETICS** You will be exposed to an overview of Mendelian genetics: physical and chemical structure of the hereditary molecules and the role of chromosomes; mitosis, meiosis, and the molecular basis of inheritance; DNA metabolism to include replication, repair, and recombination; genes to proteins; genetic models (viruses and bacteria), eukaryotic genomes, genetic basis of development, and an overview of genomes. **Prerequisite:** BIOL 201/L; **Co-requisite:** BIOL 202L. (Spring only) (3, 3T+0S)

**202L PRINCIPLES OF GENETICS LAB** You will experiment in genetics with a focus on bacterial, yeast, plant, and Drosophila models, with an emphasis on supporting concepts from the lecture. **Co-requisite:** BIOL 202. (Spring only) (1, 0T+1L)

**203 ECOLOGY AND EVOLUTION** You will study the principles of evolution on the origin of the biosphere and the diversifications of life; the processes of natural selection and the origin of species, and the evolution of populations; evolutionary ecology with emphasis on behavioral, population, and community ecology, along with the impacts on the ecosystem, ecology, and conservation biology. **Prerequisites:** ENG 111, MATH 150, CHEM 121/L; **Co-requisite:** BIOL 203L. (Fall) (3, 3T+0L)

**203L ECOLOGY AND EVOLUTION LAB** You will learn practical applications of the tools and methods used by ecologists and evolutionary biologists to address research questions; an introduction to statistical and sampling techniques used to collect and analyze data on fossils, plants, and animals. **Co-requisite:** BIOL 203. (1, 0T+1L)

**204 PLANT AND ANIMAL FORM AND FUNCTION** You will study plant structure and growth, transport in plants, plant nutrition, plant reproduction and development, control systems in plants, introduction to animal systems, animal nutrition, circulation of gas exchange, immune systems, control of the internal environment, chemical signals in animals, reproduction, development, nervous systems, and sensory and motor mechanisms. **Prerequisites:** MATH 150, BIOL 201/L, and CHEM 122/L. **Co-requisite:** BIOL 204L. (Spring) (3, 3T+0L)

**204L PLANT AND ANIMAL FORM AND FUNCTION LAB** You will engage in laboratory experiences supportive of BIOL 204. **Co-requisite:** BIOL 204. (1, 0T+1L)

**210 MICROBIOLOGY** You will concentrate on the characteristics of microbes (particularly the bacteria), the influence of microbes on man and his environment and of man on the microbial environment, with a focus on medically significant microbes, physiologic responses to infection, clinical aspects of asepsis, proper procedures in the handling, isolation, and identification of bacteria. **Prerequisite:** CHEM 110 and 110L. **Co-requisite:** BIOL 210L. (3, 3T+0L)

**210L MICROBIOLOGY LAB** **Co-requisite:** BIOL 210. (1, 0T+1L)

**230 FIELD ORNITHOLOGY** An introduction to the concepts and techniques of field ornithology, with an emphasis on identifying birds by sight, sound, and behavioral clues.
Abundance patterns in relation to habitat distributions and conservation efforts will also be investigated. Bird monitoring techniques will be utilized in the field in order to observe population trends related to Bosque restoration efforts. (Summer only) (2, 1T+1L)

237 HUMAN ANATOMY AND PHYSIOLOGY I You will study the structure, function, and chemistry of the human membranes and glands of the integumentary system, skeletal system, muscular system, and muscle and neuron membrane physiology. Prerequisite: CHEM 110 and 110L. Co-requisite: BIOL 237L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN BIOL 2114 with lab)

237L HUMAN ANATOMY AND PHYSIOLOGY I LAB Co-requisite: BIOL 237. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN BIOL 2114 with lecture)).

238 HUMAN ANATOMY AND PHYSIOLOGY II Continuation of BIOL 237. Studies fluid and electrolytes, and the following systems: nervous (central and peripheral), circulatory, urinary, respiratory, digestive, and endocrine and reproductive. Prerequisite: BIOL 237/L; Co-requisite: BIOL 238L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN BIOL 2124 with lab)

238L HUMAN ANATOMY AND PHYSIOLOGY II LAB Co-requisite: BIOL 238. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN BIOL 2124 with lab)

260 BIOTECHNOLOGY SEMINAR II In this continuation of Biotechnology Seminar I, you will discuss current issues in DNA technology and biotechnology applications; explore career options in the biomedical research area. Co-requisite: BIOL 260L. Prerequisites: BIOL 160/L. Co-requisite: BIOL 260L. (Spring) (3, 3T+0L)

260L BIOTECHNOLOGY LAB II In this laboratory experience, you will develop techniques for PCR, DNA sequencing and analysis, gene expression in phage lambda and E. coli, SDS-polyacrylamide gel electrophoresis, protein assays, and techniques for working with proteins, dialysis, and gel filtration and ion exchange chromatography. Co-requisite: BIOL 260. (Spring) (1, 0T+1L)

290 UNDERGRADUATE RESEARCH EXPERIENCE I In this laboratory-based experience in biological research, you will learn experimental design, library and internet information searches, research methodology, and how to maintain laboratory notes while interacting with peers and faculty. You will prepare a technical report or poster on your activities. Research questions focus on molecular biology, ecology, and environmental science. Prerequisite: permission of department chairperson. Graded on a credit/no credit basis. (3, 3T+0L)

292 UNDERGRADUATE RESEARCH EXPERIENCE II In this laboratory-based experience in biological research, you will learn experimental design, library and internet information searches, research methodology, and how to maintain laboratory notes while interacting with peers and faculty. You will prepare a technical report or poster on your activities. Research questions focus on molecular biology, ecology, and environmental science. Graded on a credit/no credit basis. Prerequisite: BIOL 290. (3, 3T+0L)

329 MOLECULAR CELL BIOLOGY You will learn about basic cellular processes and their control mechanisms, including gene expression, protein synthesis, signal transduction pathways, receptor activation and cell cycle. This course is designed to expand the knowledge base of students who have completed introductory-level courses and to serve as a foundation for 400-level courses in biology. Prerequisite: BIOL 204/L. (4, 4T+0L)
349 **ESSENTIALS OF ANATOMY AND PHYSIOLOGY** You will learn the essentials of anatomy and physiology of humans and other mammals. Emphasis will be on the study of systems, including nervous, endocrine, cardiovascular, immune, digestive, respiratory, urinary, and reproductive. The course is designed for students majoring in biology or as a refresher course for students in the health sciences who have taken anatomy and physiology in the past. **Prerequisites:** BIOL 204/L or BIOL 237/L and 238/L. **Co-requisite:** BIOL 349L. (3, 3T+0L)

349L **ESSENTIALS OF ANATOMY AND PHYSIOLOGY LAB** In a laboratory setting, you will learn the essentials of anatomy and physiology of humans and other mammals. Emphasis will be on the study of systems, including nervous, endocrine, cardiovascular, immune, digestive, respiratory, urinary, and reproductive. **Co-requisite:** BIOL 349. (1, 0T+1L)

351 **GENERAL MICROBIOLOGY** You will study anatomy, physiology, biochemistry, and ecology of microorganisms and the principles of bacteriological techniques, host-parasites relationships, and infection and immunity. **Prerequisite:** BIOL 204/L. **Co-requisite:** BIOL 351L. (3, 3T+0L)

351L **GENERAL MICROBIOLOGY LAB** You will engage in laboratory experiences supportive of BIOL 351. **Co-requisite:** BIOL 351. (1, 0T+1L)

360 **PLANT BIOLOGY** You will study plant anatomy, physiology, classification, evolution, and ecology as it deals with both higher and lower plants. **Prerequisite:** BIOL 204/L. **Co-requisite:** BIOL 360L. (3, 3T+0L)

360L **PLANT BIOLOGY LAB** You will engage in laboratory experiences supportive of BIOL 360. **Co-requisite:** BIOL 360. (1, 0T+1L)

371 **INVERTEBRATE BIOLOGY** You will study the major invertebrate groups with emphasis on evolutionary and ecological relationships, as well as the correlation of structure with function. **Prerequisite:** BIOL 204/L; **Co-requisite:** 371L. (3, 3T+0S)

371L **INVERTEBRATE BIOLOGY LAB** You will engage in laboratory experiences supportive of BIOL 371. (1, 0T+1L)

386 **VERTEBRATE BIOLOGY** You will study the ecology, behavior, sociology, adaptations, and evolution of the vertebrates. **Prerequisite:** BIOL 204/L (4, 4T+0L)

392 **UNDERGRADUATE RESEARCH EXPERIENCE** This is a practical faculty-directed research experience for upper-division biology majors. During the regular semester you will perform 8-10 hours per week of work alongside your mentor in a project with a time frame agreed to by both you, the student intern, and the mentor. Arrangements involve all aspects of biological research that can include fieldwork, bench laboratory work, library research, or any combination of these activities. The mentor will actively engage you in sharing the responsibility for the research process. (3, 3T+0L)

406 **STREAM ECOLOGY AND FIELD METHODS** You will use the scientific method to understand and explain concepts in stream ecology, hydrology, and biology. You will obtain experience in general field methods for stream characterization and sampling in streams of northern New Mexico. **Prerequisites:** BIOL 203/L or ES 125; **Co-requisite:** BIOL 406L (4, 3T+1L)

406L **STREAM ECOLOGY AND FIELD METHODS LAB** You will engage in laboratory experiences supportive of BIOL 406. (1, 0T+1L)

410 **BIOINFORMATICS** You will use computers to search biological databases to hunt for genes, discover protein structures, and determine phylogenetic trees from molecular evolution. **Prerequisite:** BIOL 203/L. (Fall) (3, 3T+0L)
412  DEVELOPMENTAL BIOLOGY  You will study comparative biology of animal development, with emphasis on regulatory mechanisms.  Prerequisite:  BIOL 204/L and BIOL 349/L.  Co-requisite:  BIOL 412L. (3, 3T+0L)

412L  DEVELOPMENTAL BIOLOGY LAB  You will engage in laboratory experiences supportive of BIOL 412. (1, 0T+1L)

416  CELLS AND TISSUES  You will study the structure and function of the various types of cells in the body and the tissues that are composed of these cells.  Prerequisite:  BIOL 204/L and BIOL 349/L. (Fall) (3, 3T+0L)

416L  CELLS AND TISSUES LAB  Using the light microscope with histological specimens, you will study the structure of cells and tissues.  Co-requisite:  BIOL 416. (Fall) (1, 0t+1L)

422  COMPARATIVE VERTEBRATE ANATOMY  You will conduct a systematic survey of the homology in structure and function of the vertebrates and related chordates, with emphasis on vertebrate phylogeny and correlated anatomical adaptations in the evolution of the anatomy of vertebrates.  Prerequisites:  BIOL 204/L and BIOL 349/L;  Co-requisite:  BIOL 422L (3, 3T+0L)

422L  COMPARATIVE VERTEBRATE ANATOMY LAB  You will engage in laboratory experiences supportive of BIOL 422. (1, 0T+1L)

425  MOLECULAR GENETICS  You will study the molecular biology of the gene, including chromosome structure, DNA replication and repair, RNA transcription and translation and the control of these processes, and techniques used to study these processes.  Prerequisite:  BIOL 329. (Spring) (4, 4T+0L)

426  NEUROBIOLOGY  You will study the basic structure and function of the nervous system from the level of individual neurons through such complex brain functions as learning and memory, movement, sensation, and personal perception of the environment.  Prerequisites:  BIOL 204/L and BIOL 349/L or BIOL 237/L and 238/L;  Co-requisite:  BIOL 426L. (Spring) (3, 3T+0L)

426L  NEUROBIOLOGY LAB  During this lab experience, you will use histological slides, gross specimens, and neuro-imaging studies. You will also study neural function using computer-based methods.  Co-requisite:  BIOL 426. (1, 0t+1L)

431  DRUGS AND THEIR ACTIONS  You will study the basic principles of pharmacology, including how drugs exert their effects on the body. You will study the major categories of drugs and their actions, including antibiotics, anti-inflammatories, hormones, analgesics, and drugs that affect the central nervous system.  Prerequisites:  BIOL 329 and BIOL 349/L (Spring) (4, 4T+0L)

435  COMPARATIVE ANIMAL PHYSIOLOGY  You will study the function of organ systems in animals, with emphasis on neuromuscular, cardiovascular, gastrointestinal, and renal physiology.  Prerequisite:  BIOL 349/L.  Co-requisite:  BIOL 435L. (3, 3T+0L)

435L  COMPARATIVE ANIMAL PHYSIOLOGY LAB  You will engage in laboratory experiences supportive of BIOL 435. (1, 0T+1L)

451  GENERAL ECOLOGY  You will cover a comprehensive survey of the ecology of individuals, populations, communities, and ecosystems.  Prerequisite:  BIOL 204/L;  Co-requisite:  BIOL 451L. (3, 3T+0L)

451L  GENERAL ECOLOGY LAB  You will engage in laboratory experiences supportive of BIOL 451.  Co-requisite:  BIOL451L. (1, 0T+1L)

456  IMMUNOLOGY  You will study experimentally immunoglobulin structure, antigen-antibody reactions, immunity, and hypersensitivity.  Prerequisite:  BIOL 329. (4,43T+0L)
EVOLUTIONARY PLANT ECOLOGY  You will learn evolutionary approaches to the study of plants and plant populations. You will study plant life history strategies, plant population biology and plant reproduction with an emphasis on empirical studies. Prerequisite: BIOL 151/L. (3, 3T+0L)

BIOLOGY SEMINAR  You will attend presentations given by faculty and visiting scientists on their research and careers, and students who have conducted research will present their results as well. Graded CR/NC. Prerequisite: permission of instructor. (1, 1T+0L)

BIOLOGY CAPSTONE PROJECT  You will have the culminating learning experience of your studies in biology and will have an opportunity to integrate and apply competencies and knowledge gained from coursework and laboratory experiences, and to demonstrate a broad mastery of learning across the curriculum. Graded CR/NC. Prerequisite: BIOL 151/L and permission of the instructor. (3, 3T+0L)

BUSINESS ADMINISTRATION (BA)

INTRODUCTION TO ENTREPRENEURSHIP  An introduction to the principles of entrepreneurship. Topics include self-analysis of entrepreneurship readiness, the role of the entrepreneur in economic development, legal problems, organizational structure, sources of financing, and cash flow. Prerequisite: ENG 111. (Fall) (3, 3T+0S)

BUSINESS STATISTICS  Use of statistics in business; techniques for describing and analyzing descriptive and numerical data; estimation, hypotheses testing, t-tests, and regression; application to business problems. Prerequisite: MATH 102N or MATH 103N. (3,3T+0S)

SMALL BUSINESS MANAGEMENT  Introduces the challenges of entrepreneurship, including the start-up and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Prerequisite: ENG 111. (Fall) (3, 3T+0S)

INTRODUCTION TO BUSINESS  Provides an integrated overview of American business and its operations. Special attention to current business, marketing, finance, accounting, and the legal environment of business. A small-business plan will be formulated. Prerequisite: ENG 109N. (3, 3T+0S) (NM Common Course Number: BUSA 1113, Business Transfer Module)

ACCOUNTING PRINCIPLES I  Basic accounting theory and practice, with the purpose of providing information for decision making. Preparation, analysis, and interpretation of financial statements. Prerequisite: MATH 100N. (3, 3T+0S)

ACCOUNTING PRINCIPLES II  This course offers both accounting and non-accounting majors an introduction to managerial accounting. Attention will be focused on the use of accounting data as a basis for decision by management, stockholders, creditors, and other users of financial statements and accounting reports. Prerequisite: BA 221. (3, 3T+0S)

QUICKBOOKS  Use of prepared integrated business software, QuickBooks, to record business transactions and prepare financial statements for small businesses. Prerequisites: BA 221 or OA 135. (3, 3T+0S)

PRINCIPLES OF MANAGEMENT  An overview of management principles as these apply to the public, private, and tribal sectors. Special attention to techniques of managerial decision making, the planning process, motivation, leadership, and communication skills. Prerequisite: ENG 109N. (3, 3T+0S) (NM Common Course Number: MGMT 2113, Business Transfer Module)

INTEGRATED MANAGEMENT  This course provides a management-simulated environment to make critical decisions based on the situations that arise in operating
250 **BUSINESS COMMUNICATIONS** Skill development in business writing with an emphasis on the preparation of letters and reports, and on presenting information in a logical, forceful, and acceptable form. *Prerequisite:* ENG 111. (3, 3T+0S)

251 **PRINCIPLES OF MARKETING** This course covers the marketing process from the inception to conclusion of goods and services, including market, product distribution, promotion, and pricing strategies; devotes special attention to analysis of market and consumer behavior. (3, 3T+0S) (NM Common Course Number: MKTG 2113, Business Transfer Module)

254 **INTRODUCTION TO E-COMMERCE** This course builds on currently accepted business practices to develop a business plan and implementation model for e-commerce. Topics include analysis and synthesis of the planning cycle, cost/benefit analysis, technical systems, and marketing. *Prerequisite:* BA 128. Spring) (3, 3T+0S)

258 **INDIAN GAMING, ENTREPRENEURSHIP, SOVEREIGNTY, AND CASINOS** Review of games played by Pueblo Indians from earliest times to the present and how the establishment of casinos fits within these traditions. Recent history of gaming from bingo operations and the tribal court battles to the passage of the federal Indian Gaming Regulatory Act (1988). Explore and debate the importance of political and economic issues to Pueblo gaming. *Prerequisite:* ENG 111. Cross-listed as PIS 258. (3, 3T+0S)

261 **BUSINESS TECHNOLOGY** Focuses on how technologies are used to support business needs or initiatives. Course will cover such topics as Customer Relations Management (CRM), Enterprise Resource Planning (ERP), Point of Sale (POS), Accounting Information Systems, E-commerce, Artificial Intelligence (AI), Business Continuity Planning (BCP), risk management, operation security, and/or information security in addition to discussion of ethics as related to technology usage. *Prerequisite:* ENG 111, (3, 3T+0S)

300 **BUSINESS LAW** General legal principles, including the creation of laws, contracts, sales, business, insurance, and other related matters. *Prerequisites:* ENG 109N. (3, 3T+0S)

304 **INTERMEDIATE ACCOUNTING I** Accounting principles within a conceptual framework determined by generally accepted accounting principles, financial accounting functions and theory, and recognition and measurement of assets. *Prerequisites:* BA 222. (3, 3T+0S)

305 **INTERMEDIATE ACCOUNTING II** Accounting with the study of current accounting objectives, principles, theory and practice in the preparation, interpretation, and analysis of general purpose financial statements for business entities. Emphasis will be on problems relating to investments, liabilities, and stockholders equity, including EPS. *Prerequisite:* BA 304. (3, 3T+0S)

306 **INTERMEDIATE ACCOUNTING III** Topics in accounting pertaining to public reporting of company financials. Review of recent FASB rules. *Prerequisite:* BA 304. (3, 3T+0S)

310 **PRINCIPLES OF FINANCE** Practical and theoretical financial concepts in order to understand the finance function in today’s business firm. Emphasizes the time value of money, investment valuation, and working-capital management; introduces financial analysis. *Prerequisites:* BA 205. (3, 3T+0S)

313 **ORGANIZATIONAL BEHAVIOR (WIC)** Diverse conceptual and theoretical perspectives in organizations, focusing on problems related to perception, motivation, leadership, conflict, stress, influence, decision making, work/family balance, and ethics. *Prerequisite:* BA 240. (3, 3T+0S)
315 ORGANIZATIONAL THEORY AND DESIGN  Organizational behavior on the “macro” level using case analysis topics covering organizational effectiveness, dimensions of organizational structure, determinants of structure, applications, and contemporary issues. (3, 3T+0S)

324 INCOME TAX ACCOUNTING  Latest tax law changes as they apply to individuals; problems in tax computation and reporting for individuals, with some emphasis on taxation in business. Prerequisite: BA 221. (3, 3T+0S)

330 PRINCIPLES OF PROJECT MANAGEMENT  This course provides the foundation for understanding project management from a perspective of managing a single project. This course will cover the aspects of initiating, planning, executing, monitoring/controlling and closing with scenario based information case studies to help understand the course material. The material covered follows the Project Management Institutes’ (PMI) 5th edition of the Guide to the Project management Body of Knowledge (PMBOK). (3, 3T+0S)

334 ORGANIZATIONAL MANAGEMENT  This course provides the foundation for understanding how project-based work is accomplished in contemporary organizations. Organizational model for accomplishing work will be covered including projectized, functional and matrix models. An overview of project program and portfolio management will be covered. The course is completed with the review of various approaches to strategy development, enterprise-level performance measurement, and models for organizational performance improvement (such as Baldrige, ISO, and PMI’s OPM3). (3,3T+0S)

335 PROJECT PLANNING AND CONTROLS  This course covers the process of planning, scheduling, and using control techniques and systems to effectively manage a project. The objective of this course is to furnish the student with the skills and knowledge needed to effectively plan and schedule a project using contemporary computer modeling tools such as Microsoft Sharepoint, Microsoft Project and Oracle Primavera. Using a representative tool, you will learn how to use project control systems to monitor, forecast, and solve problems as they occur. You will learn the elements of project planning and ways to set up meaningful control systems that can help as the project manager and team a successfully completed project. The material covered follows the Project Management Institutes; (PMI) 5th edition of the Guide to the project management Body of Knowledge (PMBOK), Prerequisite: BA 330. (3,T+0S)

336 PROJECT COMMUNICATIONS AND STAKEHOLDER MANAGEMENT  This course provides communications skills used to delegate responsibilities, motivate teams, solve problems, organize, sell ideas, obtain/provide information, report on performance, manage organizational transition, and implement actions. Studies are provided with practical communications strategies, tools and best practices along with plenty of real life examples of their application in an interactive format, to enhance learning. The material covered follows the Project Management Institutes’ (PMI) 5th edition of the Guide to the Project management Body of Knowledge (PMBOK). Prerequisite: BA 330. (3,3T+0S)

350 ENTREPRENEURSHIP  Methods of small business management and business formation, with an emphasis on the traditional business functions in a small setting. (3, 3T+0S)

351 ADVERTISING AND PUBLIC RELATIONS  Advertising, public relations, sales, and promotion practices. Communication techniques and decision-making approaches to strategically designed campaigns for business and public support. Prerequisite: BA 251 (Fall) (3, 3T+0S)

352 ACCOUNTING INFORMATION SYSTEMS  Current practices and technologies used to design, install, operate, and manage an integrated automated accounting system. Appli-
cation controls, information security requirements, and integration with other business information systems. **Prerequisite:** BA 222. (3, 3T+0S).

**353 OPERATIONS MANAGEMENT** This course explores the fundamental concepts of operations including productivity, quality control, new product and process development, inventory management, operations strategy, and computer applications. **Prerequisite:** BA 240. (3, 3T+0S)

**354 E-COMMERCE** Techniques, problems, and solutions in eCommerce. Marketing plan considerations, online catalogs, payment methods, security, outsourcing options, and the technologies behind eCommerce web sites. **Prerequisites:** BA 240, BA 251. (3, 3T+0S)

**360 HUMAN RESOURCES MANAGEMENT** Basic concepts of Human Resource Management functions and organizational processes. Emphasizes legislation, specialization, job description, job analysis, self-managed teams, profit/gain sharing, health care, medical leave, harassment, diversity, management and/or labor relations, recruitment, and training. **Prerequisite:** BA 240. (3, 3T+0S)

**361 ADVANCED MANAGEMENT INFORMATION SYSTEMS** The course includes such topics as security, decision support services, system life cycle, social issues of computing, database administration, data mining, data modeling, systems development and emerging technologies. Focus is from the technical manager perspective. **Prerequisites:** BA 261, BA 354 and IT 350. (3, 3T+0S)

**370 RETAIL MANAGEMENT** This course is designed to expose students to the excitement of retailing and to prepare them for a career in retailing and related fields. **Prerequisite:** BA 220 (3, 3T+0L)

**405 ACCOUNTING FOR NON-PROFIT ORGANIZATIONS** Accounting and financial reporting for governmental and non-profit organizations, including topics such as fund accounting for governmental organizations and adherence to GASB standards as well as statement preparation and analysis. **Prerequisite:** BA 304 (Spring) (3, 3T+0S)

**408 CORPORATE FINANCE** In-depth analysis of financial concepts including valuation capital budgeting, cost of capital, leasing, financial analysis, and working capital management. **Prerequisites:** BA 221, BA 310. (Spring) (3, 3T+0S).

**410 MONEY AND BANKING** In-depth analysis of modern monetary theory and policy, commercial banking system and depository institutions, global financial system and foreign exchange market. **Prerequisites:** ECON 200 and BA 310 (Spring) (3, 3T+0S).

**411 MANAGERIAL ACCOUNTING** You will examine the role of accounting in management decision-making for planning and control. Topics include: interpretation and analysis of financial information, relevant cost analysis; budgeting and responsibility accounting, planning for capital expenditures. **Prerequisite:** BA 222 (3, 3T, 0L).

**412 INVESTMENT ANALYSIS AND MANAGEMENT** Types of investment security markets, investment instruments, concepts and strategies for institutional and individual investors. **Prerequisites:** BA 221, ECON 200. (Spring) (3,3T+0S)

**414 INTERNATIONAL FINANCIAL MANAGEMENT** Analysis of multinational financial markets, their use by the multinational corporation in managing currency risk, as a source of funds, and for portfolio investment. **Prerequisites:** BA 310, ECON 200. (Spring) (3,3T+0S).

**424 FEDERAL TAX ACCOUNTING II** Special tax issues of corporations, partnerships, s-corporations, gift taxes, estates, and trusts. Computer applications to research, solve, and analyze tax problems. **Prerequisite:** BA 324. (3, 3T+0S)

**429 ADVANCED ACCOUNTING** Advanced study of corporate financial analysis and
planning, including capital budgeting, cost of funds, and capital structure and valuation. 

*Prerequisites:* BA 222 (Accounting Principles II) and BA 310 (Principles of Finance). (3, 3T+0S)

**432 STRATEGIC MANAGEMENT** Basic concepts, frameworks, and methodologies useful to managers in crafting and executing business strategy, including quality management. 

*Prerequisite:* BA 240. (3, 3T+0S)

**433 PROJECT QUALITY AND RISK MANAGEMENT** This course provides skills needed to implement quality tools, techniques and practices in all phases of the project life cycle and in assessing and managing the risks related to project success. Elements of a systematic approach to risk management are covered including risk identification, qualitative analysis, quantitative analysis, risk planning and monitoring for outcome realization. The material covered follows the Project Management Institutes’ (PMI) 5th edition of the Guide to the Project management Body of Knowledge (PMBOK). 

*Prerequisite:* BA 240. (3, 3T+0S)

**437 PROJECT PROCUREMENT AND CONTRACTS** This course examines the processes of sourcing, tendering and contract award, as well as the fundamental elements of contract development to ensure compliance with contract terms and conditions and avoid cost overruns and late delivery. It provides a systematic approach to the planning, development, negotiation and formulation of effective contracts and highlights the critical activities to be performed during the pre-award, award, and post award stages of the tendering and contracting process. The material covered follows the Project Management Institutes’ (PMI) 5th edition of the Guide to the Project management Body of Knowledge (PMBOK). 

*Prerequisite:* BA 330. (3, 3T+0S)

**438 PROJECT LEADERSHIP AND HR MANAGEMENT** This course covers the processes of Project Leadership and Human Resource Management into day-to-day project management activities. Models for communications planning, technology, requirements, and methods will be covered. Emphasis will also cover negotiation and acquisition planning and execution, leadership team building, team problem solving, decision making and how to conduct team and individual performance appraisals. The material covered follows the Project Management Institutes’ (PMI) 5th edition of the Guide to Project management Body of Knowledge (PMBOK). 

*Prerequisite:* BA 330. (3, 3T+0S)

**442 ADVANCED COST MANAGEMENT** Cost management as part of the decision-making process, with an emphasis on resource planning, cost estimating, cost budgeting, and cost control. 

*Prerequisite:* BA 411. (3, 3T+0S)

**444 FINANCIAL STATEMENT ANALYSIS** Tools and expertise to find, interpret, and analyze available information to determine, perform, and evaluate the firm. 

*Prerequisites:* ECON 200, BA 221. (3, 3T+0S)

**445 COST ACCOUNTING** Advanced topics in the development and interpretation of accounting information as an aid to management. Includes collecting cost information; cost estimation and allocation; standard costing and variance analysis; activity based costing and cost-value relationships. 

*Prerequisite:* BA 222. (3, 3T+0S)

**446 AUDITING THEORY AND PRACTICE** Accepted principles, practices, and procedures used by public accountants for certifying corporate financial statements. 

*Prerequisite:* BA 304 (3,3T+0S)

**451 PROFESSIONAL SALES AND SERVICE** This course focuses on the skills required to be successful in sales. Students will learn how to employ a strategic selling approach —identifying and addressing the challenges and obstacles to closing the sale. Often, there is more than one decision maker and the sales person must determine who they are and how to satisfy each of their needs and objections. The student will learn how to effectively
deal with operational, economic, strategic and technological decision makers. The course details each of the steps within the selling process; provides numerous examples of how to execute each step; and how each step affects the others. The Service section of the course will address successful service strategies and how to maintain growth and customer loyalty in a competitive environment while reducing cost. **Prerequisite:** BA 251 (3, 3T+0S).

**452 SERVICES MARKETING** Students will study the key components of a successful services business and how to position the business in the market to achieve competitive advantage and customer loyalty. The course focuses on development of the service concept and its value proposition applying the traditional marketing mix: Product; Promotion, Price and Place to specific services characteristics and customer requirements. Successful services businesses are relationship driven, so emphasis is placed on the people and processes required to expeditiously deliver quality service and superior value. **Prerequisite:** BA 251 (3,3T+0S).

**453 MARKET RESEARCH** Students will learn how to effectively organize and execute the process of gathering information about markets, competition and customers to facilitate strategy development and decision making. Data collection and interpretation techniques required to effectively select and segment markets, define product and service offerings and preempt the competition are covered. **Prerequisite:** BA 251, MATH 145 (3, 3T+0S)

**454 INTEGRATED MARKETING COMMUNICATIONS** Integrated Marketing Communications (IMC) provides the student with a very comprehensive look at how market managers build and sustain strong customer relationships. Today’s communications strategies must encompass the total communications mix. In order to effectively communicate with all of an organization's constituencies (customers, prospects, suppliers, partners, shareholders and employees) marketers must utilize a myriad of tools; advertising, public relations, direct marketing, personalized communications, interactive marketing, sales promotion, the internet and personal selling. Students will learn how each component of this integrated messaging strategy is designed to complement and build on the others. The course underscores the importance of recognizing that a firm must use every tool at its disposal to convey a unified message to each of their target audiences. **Prerequisite:** BA 351 (3, 3T+0S)

**455 PRODUCT MANAGEMENT** Students will learn how to direct and manage the entire product life cycle from new product development through launch and on to maturity and end-of-life. **Prerequisite:** BA 251 (3, 3T+0S).

**456 MARKETING MANAGEMENT** The student will gain a comprehensive view and understanding of the role of Marketing Managers in today's dynamic and rapidly changing global marketplace. They must provide their business with a vision for the future; monitor and understand a dynamic market environment; generate strategic options and deliver programs that sustain a measurable competitive advantage. The course focuses on these goals as well as issues that marketing managers are confronted with on a daily basis. It covers the most recent and relevant techniques and processes being applied to the functions of: strategy development; interpreting consumer behavior; market segmentation; B2C and B2B marketing; brand management; marketing communications; customer relationship management (CRM); distribution strategy; product pricing and promotion. The course also addresses the latest technologies in digital marketing and e-commerce. **Prerequisite:** BA 351. (3,3T+0S).

**457 MIS POLICIES** Examine and critique various MIS policies covering such topics as Access Control; Application Security, Information Security and Risk Management, Personal Computer Usage, E-mail, Acceptable User Practices, Internet Usage, Intellectual Property, Firewall, Management Risk Acceptance and Non-Disclosure. Focus is from a technical manager perspective. **Prerequisite:** EECE 152L, EECE 132, IT 210. (3,3T+0S)
BUSINESS COMPUTING INFORMATION SYSTEMS

460 LABOR RELATIONS Labor union history, labor law, collective bargaining, labor-management relations, and the concept of management prerogative with respect to defining jobs, working conditions, and other human resources functions. (3, 3T+0S)

461 ETHICAL AND LEGAL ISSUES IN BUSINESS Current topics in the areas of law, regulatory controls, and ethical issues, focusing discussions on the implications of these legal situations in management. Prerequisite: BA 300. (3, 3T+0S)

462 INTERNATIONAL BUSINESS AND MANAGEMENT International business and environments by covering topics such as the international monetary system, import-export, growing competition and trading relationships in a global community. (3, 3T+0S)

463 TECHNOLOGY TRANSFER ASIA/USA Technology transfer process between Asia and the United States in the last twenty-five years, the emergence of Asia as a technology center with Foreign Direct Investment (FDI), and the role of multi-nationals, government incentives, and world trade agreements. Prerequisite: BA 462. (Spring) (3, 3T+0S)

464 BUSINESS CONTINUITY PLANNING/DISASTER PLANNING Examine and critique various Business Continuity and Disaster Recovery Planning models and documents. Students will conduct a business impact analysis of one business function. Prerequisites: 30 hours of BA courses or instructor permission and BA 354. (3, 3T+0S).

465 SPECIAL TOPICS IN MIS Topics from current literature dealing with MIS issues or concepts. Focus is from the technical manager perspective. Prerequisites: 30 hours of BA courses or instructor permission and BA 354. (1-6 crs)

466 SCIENCE, ENGINEERING, AND TECHNOLOGY MANAGEMENT Techniques in the management of science, technology, or engineering organizations; the influence of technology on business processes; technology and business strategy. Prerequisites: BA 220 and 240. (Fall) (3, 3T+0S)

467 MARKETING HIGH TECHNOLOGY The marketing of high technology products and services in business-to-business market segments; product management, manufacturing, service and sales in high-technology companies. Prerequisites: BA 220 and 240. (Fall) (3, 3T+0S)

485 INTERNSHIP Service learning in field of interest within a job-related environment. Prerequisite: You must petition to enroll in this course. (6, 6T+0S)

490 CAPSTONE Service Learning project in a field of interest within a job-related environment. Course will also include completion of a Major Field Test. Prerequisites: completion of at least 18 hours of Common BBA requirements and permission of instructor. (6, 6T+0L)

BUSINESS COMPUTING INFORMATION SYSTEMS (BCIS)

102 COMPUTER LITERACY Overview of computer hardware, software, and the Windows or Linux environment. You will cover basic computer operating principles, file management, the using the Internet, along with an introduction to word processors, spreadsheets, and database programs. (3, 3T+0S)

115 INTRODUCTION TO MS EXCEL Introduction to the electronic spreadsheet, specifically how to use, design, and edit spreadsheets for use in a variety of personal and business applications. (1, 1T+0S)

116 INTRODUCTION TO MS POWERPOINT Introduction to the electronic presentation, specifically how to use, design, and edit presentation graphics for use in a variety of personal and business applications. (1, 1T+0S)
139 INTRODUCTION TO MS WORD A brief overview of the word processing application package, Microsoft Word. You will learn to create basic documents, such as letters and memos. You will be provided with the basic knowledge as well as hands-on experience to allow you to become computer literate in Word. (1, 1T+0S)

155 INTRODUCTION TO MS ACCESS Introduction to the electronic database, specifically, how to use, design, and edit databases for use in a variety of personal and business applications. (1, 1T+0S)

200 BUSINESS COMPUTER APPLICATIONS The owner/manager approach to the use of microcomputers: systems design, software, business applications, and the Windows environment. (3, 3T+0S)

225 EXCEL Illustrates the features of Microsoft Excel, a spreadsheet program that organizes data, completes calculations, makes decisions, graphs (charts) data, and develops professional-looking reports. (3, 3T+0S)

226 POWERPOINT Microsoft PowerPoint is a complete presentation graphics software program that produces a professional-looking presentation. PowerPoint enables informal presentations in a small conference room using overhead transparencies. (3, 3T+0S)

249 MICROSOFT WORD Covers the commands of Microsoft Word by using step-by-step applications; provides a working knowledge of the basic and intermediate capabilities of Microsoft Word on an IBM compatible. (3, 3T+0S)

265 MICROSOFT ACCESS A Windows database course teaching basic through intermediate features: creating and editing databases by using step-by-step activities; formatting fields and entering calculated fields, as well as creating forms and using queries to extract information. (3, 3T+0S)

CHEMISTRY (CHEM)

110 INTRODUCTION TO CHEMISTRY Introductory course to prepare students with no high school chemistry for college level chemistry courses and to familiarize students in health occupations programs with basic concepts of inorganic, organic, and biochemistry in physiology and medicine. Prerequisite: MATH 102N and ENG 109N; Co-requisite: CHEM 110L. (3, 3T+0L). Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN CHEM 1114 with lab)

110L INTRODUCTION TO CHEMISTRY LAB Co-requisite: CHEM 110. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN CHEM 1114 with lecture)

121 GENERAL CHEMISTRY I Chemical and physical behavior of matter. Prerequisite: MATH 130, high school chemistry, or an ACT score of 19 or higher in Natural Science, and ENG 111. Co-requisite: CHEM 121L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN CHEM 1214 with lab)

121L GENERAL CHEMISTRY I LAB Co-requisite: CHEM 121. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN CHEM 1214 with lecture)

122 GENERAL CHEMISTRY II A continuation of CHEM 121. Prerequisite: CHEM 121/L. Co-requisite: CHEM 122L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN CHEM 1224 with lab)

122L GENERAL CHEMISTRY II LAB Co-requisite: CHEM 122. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN CHEM 1224 with lecture)
210  INTEGRATED ORGANIC & BIOCHEMISTRY Introductory course designed to meet the entrance requirements in chemistry for students in allied-health fields in which some knowledge of organic chemistry and bio-chemistry is needed. **Prerequisite:** CHEM 110/L or CHEM 121/L; **Co-requisite:** CHEM 210L. (3, 3T+0L)

210L  INTEGRATED ORGANIC & BIOCHEMISTRY LAB This course provides experiences with the physical properties and laboratory synthesis of organic compounds. Includes exercises in the preparation, separation, isolation, and characterization of biologically derived molecules. **Co-requisite:** CHEM 210. (1, 0T+1L)

221  QUANTITATIVE & ANALYTICAL CHEMISTRY Basic theory and techniques of quantitative chemical analysis. Concepts of sampling and separation techniques with an emphasis on precision measurements and statistical analysis in volumetric and gravimetric procedures. **Co-requisite:** CHEM 221L. **Prerequisites:** CHEM 122L and MATH 145. (Spring) (2, 2T+0L)

221L  QUANTITATIVE & ANALYTICAL CHEMISTRY LAB Laboratory experiments involving instrumentation emphasis on sampling, statistical, measurement, and separation techniques. You will focus on proper documentation and data analysis. **Co-requisite:** CHEM 221. **Prerequisites:** CHEM 121 and 121L. (Spring) (2, 0T+2L)

260  STANDARD LABORATORY PROTOCOLS Presents the theory and practice of basic laboratory protocols and analyses as performed in research and/or industrial settings. Emphasizes safety, detailed and accurate record keeping, data handling, and report writing. Beneficial to all majors in Biology, Materials Science, Environmental Management, and other applied science curricula. **Prerequisites:** CHEM 122 and 122L. (4, 4T+0L)

290  UNDERGRADUATE RESEARCH EXPERIENCE I You will learn experimental design, library and Internet information searches, research methodology, laboratory safety, and how to maintain laboratory notes while interacting with peers and faculty. You prepare a technical report, poster, or presentation on your activities. Research questions may vary. Graded CR/NC. **Prerequisites:** CHEM 121/L and 122/L, and permission of instructor. (3, 3T+0L)

301  ORGANIC CHEMISTRY I The study of the compounds of carbon and the relationships among molecular structure, chemical reactivity, physical properties, and spectral features, approached by way of the functional group classification of organic compounds. **Prerequisite:** CHEM 122/L; **Co-requisite:** CHEM 301L. (Fall) (3, 3T+0L)

301L  ORGANIC CHEMISTRY I LAB Introduction to the techniques involved in the preparation, isolation, purification, and characterization of organic compounds. **Co-requisite:** CHEM 301. (Fall) (1, 0T+1L)

302  ORGANIC CHEMISTRY II The study of the compounds of carbon and the relationships among molecular structure, chemical reactivity, physical properties, and spectral features, approached by way of the functional group classification of organic compounds. **Prerequisite:** CHEM 301/L; **Co-requisite:** CHEM 302L (Spring). (3, 3T+0L)

302L  ORGANIC CHEMISTRY II LAB Application of more advanced techniques in the preparation, isolation, purification, and characterization of organic compounds, with special emphasis on the use of spectroscopic techniques to elucidate structure. **Co-requisite:** CHEM 302. (Spring) (1, 0T+1L)

311  PHYSICAL CHEMISTRY You will study the quantitative principles of chemistry, gases, thermodynamics, quantum systems, equilibrium, kinetics, and spectroscopy. **Prerequisites:** CHEM 122/L, 221/L, MATH 163, and PHYS 122/L; **Co-requisite:** CHEM 311. (3, 3T+0L)

311L  PHYSICAL CHEMISTRY LAB You will engage in laboratory experiences supportive of CHEM 311. **Co-requisite:** CHEM 311. (1, 0T+1L)
SURVEY OF BIOCHEMISTRY  Covers the basic principles of biochemistry, including properties of nucleic acids, proteins, carbohydrates, fats, and lipids, while also introducing the chemistry of metabolic pathways, pH regulation, membranes and receptors, cell organization, enzymes kinetics and mechanisms, hormonal regulation, energy transformations, chemical reactions in living cells, ATP synthesis and use, and biochemical genetics.  Prerequisite: CHEM 210/L or 301/L. (Spring) (3, 3T+0L)

BIOCHEMISTRY  You will study the fundamentals of general and organic chemistry to understand the complex array of structures and chemical processes that occur in living organisms.  Prerequisites: CHEM 301/L, 302/L, and 311/L; Co-requisite: CHEM 421L. (3, 3T+0L)

BIOCHEMISTRY LAB  You will engage in laboratory experiences supportive of CHEM 421. Co-requisite: CHEM 421. (1, 0T+1L)

GENERAL ENGINEERING DESIGN I  Introduces engineering graphics, the design process, computer-aided design, engineering ethics, design economics, and project management. (Cross-listed with ME 160L)  Prerequisite: MATH 160. (3, 2T+1L)

ENGINEERING STATICS  You will study force analysis of particles and rigid bodies in two and three dimensions using vector algebra as an analytical tool; centroids, distributed loads, trusses, frames, friction. (Cross-listed with ME 202)  Prerequisites: PHYS 215/L and MATH 163. (Fall) (3, 3T+0L)

MECHANICS OF MATERIALS  You will study stresses and strains in members subjected to tension, compression, torsion, shear and flexure; combined and principal stresses; Mohr’s circle construction; buckling, introduction to statistically indeterminate members. (Cross-listed with ME 302)  Prerequisites: PHYS 216/L and MATH 163. (Fall) (3, 3T+0L)

MECHANICAL VIBRATIONS  You will study free and forced vibrations of one and two degrees of freedom systems for both steady state and transient forcing, and vibrations of selected continuous systems and balancing. (Cross-listed with ME 357]  Prerequisites: ME 306 and MATH 316. (Fall) (3, 3T+0L)

BUSINESS AND PROFESSIONAL COMMUNICATIONS STUDIES  Practical introduction to the principles and skills needed to communicate effectively for on-the-job success in business and other professional settings. Emphasis is on developing, organizing, and supporting ideas at interpersonal business encounters, groups, and meetings, and platform presentations.  Prerequisite: ENG 111. (3, 3T+0S)

PROFESSIONAL COMMUNICATIONS  You will be exposed to the wide range of communications required for IT professionals, learning proven techniques to sharpen writing, speaking, and active listening skills.  Prerequisites: ENG 111 and 116. (3, 3T+0S)

INTRODUCTION TO COMPUTER APPLICATIONS I  An introduction to software programs commonly used for personal or professional use. May be repeated for credit. (1, 1T+0S)
104 INTRODUCTION TO COMPUTER APPLICATIONS II An introduction to software programs commonly used for personal or professional use. May be repeated for credit. (1, 1T+0S)

105 INTRODUCTION TO DATABASES Through an introduction to database software, you will study basic database table, query, form, and report creation and management. Prerequisite: BCIS 102 or IT 101. (3, 3T+0S)

106 INTRODUCTION TO THE INTERNET Fundamentals of the Internet, including the use of browsers for searches, menus, setting up preferences, bookmarks, and downloading files from the World Wide Web network. Introduction to how to prepare a home-page and linking to other existing web-pages. Also includes an introduction to e-mail. (1, 1T+0S)

132 INTRODUCTION TO PROGRAMMING You will use a modern high-level programming language to learn the basic concepts and practices of procedural and object-oriented programming. This course is suitable for non-CS majors or those seeking an introduction to CS. Prerequisite: MATH 102N or MATH 103N (3, 2T+1S)

142 COMPUTER SCIENCE I Through program analysis and design using a high-level programming language, you will study the fundamentals of program design, basic programming techniques, and concepts of object-oriented programming. Prerequisite: CS 132 or IT 110, and MATH 130. (3, 2T+1S)

167 C PROGRAMMING You will learn programming in the C Language. Prerequisite: CS 132. (Fall) (3, 2T+1S)

170 MATHEMATICS FOR COMPUTER SCIENCE You will study discrete mathematics: the logic of predicates, compound and quantified statements, application to digital logic circuits and computer arithmetic, programming logic, elementary number theory, and methods of proof, mathematical induction, algorithms, and combinatorial reasoning. Prerequisite: MATH 130. (Spring) (3, 3T+0S)

200 C++ PROGRAMMING Covers programming using the C++ language, with emphasis on problem solving. Prerequisite: CS 142. (Spring) (3, 2T+1S)

201 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE You will study the formal mathematical concepts of computer science, including such topics as elementary logic, induction, algorithmic processes, graph theory, and models of computation. (Fall) Prerequisite: EECE 231L. (3, 3T+0S)

210 DATABASE DESIGN AND PROGRAMMING Database theory, design, and programming using Structured Query Language (SQL). Covers database definition and normalization, programming using the industry standard SQL, and server operational considerations. Prerequisites: CS 105 and 132. (Fall) (3, 2T+1S)

220 ADVANCED JAVA A graphical approach to object-oriented programming, continuing the exploration of classes, methods, encapsulation, and inheritance introduced in CS 142. Also covers event-driven programming. Prerequisites: CS 142 and MATH 130. (Offered as needed) (3, 2T+1S)

238L COMPUTER LOGIC DESIGN You will study binary number systems; Boolean logic: combinatorial, sequential, and register transfer logic; VHDL: arithmetic/logic unit; memories; computer organization; input-output and microprocessors. Prerequisite: ENGR 120 or MATH 150 and EECE 152L. (Cross-listed with EECE 238L) (Spring) (4, 3T+1S)
COSMETOLOGY

241  DATA ORGANIZATION You will study data representation, storage and manipulation; memory organization of data storage and its relation to computation and efficiency. Topics include linked versus contiguous implementation, memory management, the use of indices and pointers, and an introduction to issues raised by the memory hierarchy. 
Prerequisite: EECE 152L. (Fall) (3, 3T+0L)

242  COMPUTER SCIENCE II A continuation of CS 142, this course introduces algorithms and data structures, including trees, stacks, queues, and linked lists. Also covers basic operations using these structures, such as sorting and searching. Prerequisites: CS 142 and CS 170. (Spring) (3, 2T+1S)

280  GUI/WINDOWS PROGRAMMING Introduction to event-driven programming and graphical user interfaces (GUI) on a windows platform. The class is taught using TCL/TK or an object-oriented approach using a development environment, such as Visual Studio with Visual Basic. Prerequisite: CS 132. (Spring) (3, 2T+1S)

295  COMPUTER SCIENCE PROJECT Individual project using tools and skills developed in previous courses. You will define your own project and its goals. May be repeated for credit to a maximum of 3 credits. Prerequisite: Three 200-level CS/CT courses, one of which may be taken concurrently. (3, 3T+0S)

351  DESIGN OF LARGE PROGRAMS A project course on object-oriented analysis, design, and programming; programming language issues, programming tools and other computer science concepts for the project, such as discrete event simulation and parsing. Prerequisites: EECE 231 and CS 241. (Spring) (3, 3T+0L)

352L  SOFTWARE DEVELOPMENT A project course in which you will study the planning, design, and implementation of a software engineering assignment; emphasis is on the use of project tools for integrating software, tracking changes, and reporting status. Prerequisite: EECE 231. (Fall) (3, 2T+1L)

374  REAL TIME COMPUTING You will study the analysis and design of computational programs requiring real time input and output; layout of arithmetic operations, memory management, and computational sequencing. You will practice on real time processors, such as the TMS320 series. Prerequisites: EECE 231 and 238L. (Fall) (3, 3T+0L)

COSMETOLOGY (COSM)

Prerequisite for any Cosmetology course is completion of ENG 108N or adequate scores on the Course Placement Evaluation instrument.

110  COSMETOLOGY I This course presents an integrated study and overview of the demands of the profession and the self-discipline needed to succeed in the field of cosmetology. It includes concepts related to professional image, work ethic, professional standards, communication skills, infection control, and industry history. As this course requires both theory and lab, you will perform practical skills on mannequins. The course introduces you to state-required study in theory, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling, manicuring, and pedicuring. Prerequisites: Eng 109, BA 117 (OA 117) (17, 7T+10S)

120  COSMETOLOGY II This course is a continuation of Cosmetology I. You will perform practical skills on mannequins, while continuing your study in theory, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling, manicuring, and pedicuring. Prerequisite: COSM 110. (16, 5T+11S)

210  COSMETOLOGY III This course is a continuation of Cosmetology II. You will perform practical skills on mannequins and clients, while continuing your study in theory, salon

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business, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling, manicuring and pedicuring. **Prerequisite:** COSM 120. (15, 3T+12S)

**220 COSMETOLOGY IV** This course is a continuation of Cosmetology III. You will perform practical skills on clients, while continuing your study in theory, salon business, facials, hair coloring, chemical texturizing, haircutting, shampooing, hairstyling, and shaving. You will study State Board Regulations and prepare for state and national exams. **Prerequisite:** COSM 120. (15, 3T+12S)

**222 COSMETOLOGY DIRECTED STUDY** This course is an independent clinical practice of all skills and knowledge learned in related courses. It is designed for students to make-up missed state-required clock hours. It may be repeated once. **Prerequisite:** COSM 120 or 210 or 220. (6, 0T+6S)

**230 COSMETOLOGY/BARBER REFRESHER** This course is designed for the cosmetology or barber whose license has expired. You will complete a review of state laws and regulations, take mini-board exams (state laws and practical), and review all required cosmetology/barber course work. **Prerequisite:** proof of expired cosmetology/barber license. (Summer only) (10, 8T+2S)

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### CRIMINAL JUSTICE (CJ)

**Note:** Each course in this program has a prerequisite of ENG 109N or an adequate score on the Course Placement Evaluation.

**111 INTRODUCTION TO CRIMINAL JUSTICE** You will study the agencies and processes involved in the criminal justice system, including the legislature, police, prosecutor, courts, corrections, industrial security, personnel security, and loss prevention. (3, 3T+0S)

**132 INTRODUCTION TO CRIMINOLOGY** You will explore the nature and extent of crime through an interdisciplinary perspective; theories focus on attempt to explain criminality and delinquency. (3, 3T+0S)

**201 CRIMINAL LAW** You will study the legal definitions of crime and defense; purposes and functions of substantive criminal law; historical foundations; limits of the criminal law; focused approach through case study. (3, 3T+0S)

**202 COURTS AND CRIMINAL JUSTICE** You will acquire a basic knowledge of the history, organization, and dynamics of the different levels of court systems and their relation to the other entities that include the criminal justice system. You will examine the importance and impact of the courts upon society. (3, 3T+0S)

**211 INTRODUCTION TO LAW ENFORCEMENT** You will study the historical settings of law enforcement; police role and career; police discretion; values and culture; organization and control. (3, 3T+0S)

**221 CRIMINAL JUSTICE COMMUNITY RELATIONS** You will study problems with citizen relations; treatment of victims, witnesses and jurors; citizen involvement in the criminal justice process; community resources related to criminal justice programming. (3, 3T+0S)

**224 INTRODUCTION TO CORRECTIONS** You will study the history, philosophy, legal issues, research, and models of the correction system and the impact of the system on prisoners and society, including the rights of the convicted criminal, the correction process, the correctional system, community corrections, and other alternative sentencing programs. (3, 3T+0S)

**228 FORENSIC INVESTIGATIONS** You will study the fundamentals of crime scenes and criminal investigations, with an emphasis on procedural techniques and technological
advancements and how these relate to the collection and documentation of the physical evidence present. Places emphasis on various types of crimes and physical evidence, and how to better assure a more competent successful case closure and courtroom presentation. (3, 3T+0S)

231 CRIMINAL INVESTIGATIONS You will study the fundamentals of investigations: crime scene, search and recording; collection and preservation of physical evidence, modus operandi, scientific aids, sources of information, interviewing and interrogation, follow-up and case preparation, legal search, types and degrees of evidence, and rules governing admissibility. (3, 3T+0S)

233 JUVENILE JUSTICE PROCEDURES You will explore the causes of juvenile delinquency and philosophy of the juvenile court. In depth instruction in practice of the Juvenile Court, police handling of juveniles, detention and processing, juvenile case disposition, and major juvenile crime problems. (3, 3T+0S)

251 LAW ENFORCEMENT MANAGEMENT You will study problems in organizational allocation of resources, information systems, determinants of police policy; principles of organizational functions, structures, processes, and behaviors. (3, 3T+0S)

329 THEORIES OF CRIME This course is designed to acquaint students with the major criminological theories within the fields of criminology and criminal justice. the goal of this course is to provide the student with a comprehensive understanding of the criminological research related to major systems of social control, offenders, offending, victimology, juvenile justice, and the social contexts of crime. In particular, this course will examine biological, psychological, and sociological theories that attempt to predict why people commit crimes or what are the consequences of living in family contexts where crime or criminality occur. In addition to the social context related to various theories, and how each theory proposes to explain crime, this course will address how theory and research translate into real-life action or crime policy. (3, 3T+0S)

321 RESEARCH DESIGN This course presents the method of scientific research, using active learning and hands-on experiences, to include an emphasis in theory and in learning the basic skill of research methodology such as experimental design, quasi-experimental design. There will be a module on ethics of research. The goal of this class is for the student to have acquired the skills necessary to conduct research in an independent research project. Offered only in the Fall. Students planning to graduate in May should take this course in the Fall before their projected Spring graduation. Prerequisites: ENG 111, PSY 150. Cross listed with PSY 321. (3, 3T+0S)

400 SPECIAL TOPICS Students may enroll in this course more than once for credit as its content and focus will be on varied specialized fields in the discipline of social justice, such as the history, theory, practice and legal environments, police organization, discretion, and subculture with specific interest in recent developments. Such topics may include terrorism, border patrol, sexual trafficking, globalized crime, etc. Prerequisite: ENG 111. (3, 3T+0S)

410 COMPARATIVE PERSPECTIVES IN CRIME AND JUSTICE students may enroll in this course twice for credit as its content and focus will be on varied specialized fields in the areas of criminal law, criminal procedures, prosecution, defense, and court procedures and decision-making. Prerequisite: ENG 111. (3, 3T+0S)

421 INDEPENDENT RESEARCH PROJECT Each student will implement, interpret, and report on individually designed research projects. Prerequisite: CJ 321. Cross-listed with PSY 421. Offered only in the Spring. Students planning to graduate in May should take this course in the Spring of their projected Spring graduation. (3, 3T+0S)
488 INTERNSHIP/PRACTICUM/SERVICE LEARNING CREDIT In this course, with the assistance of the advisor for the program, students would undertake an independent study, paid or unpaid internship, volunteer in a criminal justice setting, or obtain service learning credits for the work they are already accomplishing in a law, justice or enforcement setting. Approval/permission by department chair is required. (3-12)

**CHICANA/O STUDIES (CHIC)**

110 INTRODUCTION TO CHICANA/O STUDIES This course is an introductory survey of the field of Chicana/o Studies and the factors that influence Chicana/o culture. Emphasis is placed on the historical development of the Chicana/o people, including Mesoamerican roots, cultural identification, political activism and contemporary roles and influence in United States culture, society and economy. Prerequisite: ENG 109N or permission of the Instructor. (3, 3T+0S)

**DANCE (DANC)**

Any DANC activity course may be used to satisfy graduation requirements for Health, Physical Education, and Recreation.

All studio courses may be repeated without penalty; however, no course may be counted more than once toward graduation requirements.

110 FITNESS FOR DANCERS This course is an aerobic dance class that integrates stretching, conditioning, and various types of dance styles, that may include Zumba®, into an exercise form for optimal performance for dancers. (2, 1T+1S)

126 MODERN DANCE Fundamentals of movement and its application to aesthetic communication. (2, 1T+1S)

139 FOLKLORICO DANCE I You will study the historical and cultural roots, traditions, and basic techniques and styles of various regional dances: Mexican Folk, Spanish Colonial, and contemporary dances of the Chicano/Latino experience. This course will challenge you to expand your cultural understanding through movement. (2, 1T+1S)

149 BALLET I Fundamental work in vocabulary, techniques, and styles of ballet for the adult beginner. (2, 1T+1S)

150 HIP-HOP AND JAZZ I You will explore the music and culture of Hip-Hop, focusing on dance techniques and styles of African dance, jazz, and hip-hop. As you learn the hip-hop dance movement, you will strengthen your ability to choreograph and execute a group performance. (2, 1T+1S)

169 FLAMENCO DANCE I Develops the fundamentals of techniques and styles of Flamenco Dancing. (2, 1T+1S)

172 FLAMENCO TECHNIQUE I You will focus on flamenco rhythm, technique, and the structure of flamenco dance. Includes an introduction to the rich culture of flamenco. (3, 1T+2S)

182 SALSA DANCE I A vigorous Latin dance style performed to music blending various Latin rhythms. Students will gain knowledge or basic dance fundamentals and techniques, as well as discuss the history of the salsa dance style. (2, 1T+1S)

211 CHOREOGRAPHY You will learn how to select dance materials and sound accompaniment for solo and group compositions. Prerequisite: DANC 212 (3, 1T+2S)

212 DANCE IMPROVISATION You will discover the authentic self in movement; developing skills in group interaction, including the first steps in the use of structure and form
in dance composition. Prerequisite: DANC 149 (2, 1T+1S)

214 KINESIOLOGY Practical applications of concepts and theories of kinesiology, in which you will cover the pathomechanics of injury, injury management, injury prevention, and the kinesiology of ballet, flamenco, and modern dance. (3, 1T+2S)

222 RHYTHMIC FUNDAMENTALS You will be introduced to rhythms and meters common in flamenco dance. Includes dancing, percussion playing, singing, and recognition of audio rhythms. (2, 1T+1S)

239 FOLKLORICO DANCE II In this continuation of DANC 139, you will develop more advanced techniques and styles of Folklorico dancing. Prerequisite: DANC 139. (2, 1T+1S)

240 DANCE APPRECIATION You will study forms of dance technique and performance while also exploring dance rituals within different cultures. (3, 3+0S)

245 DANCE HISTORY A historical survey of the origins, growth and development of theatrical dance. The course will focus on the forces, processes and personalities that influenced dance from ancient societies to the present. Prerequisite: ENG 109N or adequate score on the Course Placement Evaluation. (3,3T).

249 BALLET II This course is a continuation of Ballet I introducing more advanced vocabulary, techniques and styles of ballet for the intermediate level student. Prerequisite: DANC 149. (2, 1T+1S).

250 HIP-HOP AND JAZZ II In this continuation of DANC 150, you will be exposed to more advanced dance movements and choreography for group performances. Prerequisite: DANC 150. (2, 1T+1S)

269 FLAMENCO DANCE II Continues DANC 169, adding the development of techniques and styles at the intermediate level. Prerequisite: DANC 169. (2, 1T+1S)

282 SALSA DANCE II A continuation of Salsa Dance I, introducing more advance techniques of Salsa dance for the intermediate level student. Prerequisite: DANC 182 (2,1T+1S).

292 REPERTORY: FOLKLORICO DANCE Professional training in the learning and performing of a new or staged choreography. (1, 0T+1S)

293 REPERTORY: FLAMENCO DANCE Professional training in the learning and performance of new or staged choreography in flamenco dance. (1, 0T+1S)

295 DANCE PORTFOLIO A course to assist dance students in creating a portfolio that documents their accomplishments in their dance area. Instruction will focus on the content, creation and presentation of a dance portfolio. Prerequisite: DANCE 292 (3, 2T+1S).

DRAFTING (DRFT)

100 COMPUTER AIDED DRAFTING I You will develop basic drafting skills using computer-aided drafting software (AutoCAD), including lettering, scales, line types, line weight, 2- and 3-view orthographic projection, dimensioning, and sectioning. (4, 3T+1S)

101 RESIDENTIAL CAD I Introduction to residential computer-aided drafting, emphasizing the preparation of residential working drawings using AutoCAD. Prerequisite: DRFT 100. (4, 1T+3S)

102 MECHANICAL ENGINEERING CAD I Introduction to engineering graphics using AutoCAD. Includes 2 and 3 view orthographic projection, geometric construction and dimensioning. Prerequisite: DRFT 100. (4, 1T+3S)

103 SURVEYING AND CAD MAPPING I Introduces you to surveying using the transit, theodolite, level, etc. You will then convert the data you collected in the field to site plans/
maps using AutoCAD. Prerequisites: DRFT 100, MATH 100N, and ENG 108N. (4, 1T+3S)

107 GLOBAL POSITIONING SYSTEM GPS basics, including use of receivers, data collection, and differential correction. Prerequisite: Familiarity with mapping. (1, 1T+0S)

108 AUTOCAD BASICS I Basics of computer aided drafting using AutoCAD software. (1, 1+0S)

109 ARCVIEW GIS BASICS I Basics of map production using ArcView GIS software. Prerequisite: must be computer literate. (1, 1T+0S)

110 GIS/GPS Introduction to geographical information systems (GIS) using ArcView and the Global Positioning System (GPS) using hand-held GPS receivers. (3, 2T+1S)

111 COMMERCIAL BUILDING CAD Introduction to commercial building computer-aided drafting, emphasizing the preparation of working drawings using AutoCAD and Architectural Desktop. Prerequisites: DRFT 101, MATH 100N, and ENG 108N. (4, 1T+3S)

112 MECHANICAL ENGINEERING CAD II Continues DRFT 102 using AutoCAD or Pro-Engineering, including sectional, auxiliary, and isometric/3D views, and advanced dimensioning. Prerequisites: DRFT 102, MATH 100N, and ENG 108N. (4, 1T+3S)

113 SURVEYING AND CAD MAPPING II Continues DRFT 103 using more advanced surveying and CAD mapping. Prerequisites: DRFT 103 and MATH 102N or MATH 103N. (4, 1T+3S)

118 AUTOCAD BASICS II A continuation of DRFT 108 AutoCAD Basics I. Prerequisite: DRFT 108. (1, 1T+0S)

119 ARCVIEW GIS BASICS II Continuation of DRFT 109, ArcView GIS Basics I, focusing on more advanced GIS map production. Prerequisite: DRFT 109 or permission of instructor. (1, 1T+0S)

122 GEOMETRIC DIMENSIONING AND TOLERANCING Principles and practices of geometric dimensioning and tolerancing. Prerequisite: DRFT 102 or permission of instructor. (3, 3T+0S)

123 SURVEYING BASICS Basics of surveying theory and collection of field data using levels, transits and theodolite. (1, 1T+0S)

126 AUTODESK LAND DESKTOP BASICS I You will study the basics of computer-aided drafting using AutoCAD software. (1, 1T+0S)

132 PRINTED CIRCUIT BOARD DESIGN Introduction to designing printed circuit boards, including the schematics, logic diagrams, and board/component drawing needed to manufacture single- and double-sided printed circuit boards. (4, 2T+2S)

199 JOB SKILLS You will develop resumes, portfolios, job search strategies, and interviewing techniques. Prerequisite: ENG 109N. (1, 1T+0S)

201 RESIDENTIAL CAD II You will design a residence using AutoCAD and Architectural Desktop, with emphasis on the preparation of the design and working drawings. Prerequisites: DRFT 101. (4, 1T+3S)

202 MECHANICAL ENGINEERING CAD III You will design and draft, using AutoCAD or ProEngineering, interrelated parts that make up an assembly of prototype product. Prerequisites: DRFT 112. (4, 1T+3S)

203 CIVIL ENGINEERING CAD You will draft various civil engineering highway projects, including plan and profile views, cross section and detailing. Prerequisite: DRFT 113. (4, 1T+3S)
209 COMPUTER-AIDED DRAFTING II Introduces you to 3D Modeling and utilization of the more advanced features of the AutoCAD software. (4, 1T+3S)

215 COMPUTER-AIDED MACHINING I Introduces you to CAM using the MasterCAM software. Includes part geometry, toolpath creation, and post processing to a CNC mill or lathe. Prerequisite: DRFT 100. (3, 2T+1S)

238 3-D MECHANICAL MODELING You will develop mechanical parts, assemblies and working drawings, using 3-D models created with a 3D parametric modeling, such ProEngineering software. Prerequisites: DRFT 100 or MT 130. (2, 2T+0S)

299 COOPERATIVE WORK EXPERIENCE You will be employed in an approved work-related experience following individualized on-the-job learning objectives. 48 work hours are required to earn one semester hour of credit. You will responsible for finding employment and you will be evaluated jointly by program faculty and employer on a CR/NC basis. Prerequisite: permission of instructor. (2-5)

EARLY CHILDHOOD EDUCATION

Note: Unless shown otherwise, each course in this department has a prerequisite of ENG 109N.

202 CHILD GROWTH, DEVELOPMENT AND LEARNING This basic course in the growth, development, and learning of young children, prenatal through age eight, provides students with the theoretical foundation for becoming competent early childhood professionals. The course includes knowledge of how young children grow, develop and learn. Major theories of child development are integrated with all domains of development, including biological-physical, social, cultural, emotional, cognitive and language. The adult’s role in supporting each child’s growth, development and learning is emphasized. (Fall) (3, 3T+0L)

218 HEALTH, SAFETY, AND NUTRITION This course provides information related to standards and practices that promote children’s physical and mental well-being, sound nutritional practices, and maintenance of safe learning environments. It includes information for developing sound health and safety management procedures for indoor and outdoor learning environments for young children. The course examines the many scheduling factors that are important for children’s total development, healthy nutrition, physical activity, and rest. (Summer) (2, 2T+0L)

220 PROFESSIONALISM This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced. Basic principles of early childhood systems are explored. Multiple perspectives on early care and education are introduced. Professional responsibilities such as cultural responsiveness and reflective practice are examined. (Spring) (2, 2T+0L)

222 INTRODUCTION TO LANGUAGE, LITERACY AND READING This course is designed to prepare early childhood professionals for promoting children’s emergent literacy and reading development. Through a developmental approach, the course addresses ways in which early childhood professionals can foster young children’s oral language development, phonemic awareness, and literacy problem solving skills, fluency, vocabulary, and comprehension. This course provides the foundation for early childhood professionals to become knowledgeable about literacy development in young children. Instructional approaches and theory-based and research based strategies to support the emergent literacy and reading skills of native speakers and English language learners will be presented. (Summer) (3, 3T+0L)
225 CURRICULUM DEVELOPMENT–BIRTH THROUGH AGE 4 The beginning curriculum course places play at the center of curriculum in developmentally appropriate early childhood programs. It addresses content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSP is included. Curriculum development is all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized. Co-requisite: ECE 238 (Fall). (3, 3T+0L)

226 FAMILY AND COMMUNITY COLLABORATION This course examines the involvement of families and communities from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establish collaborative relationships with families in early childhood settings is discussed. Families' goals and desires for their children will be supported through culturally responsive strategies. (Fall) (3, 3T+0L)

238L LAB–PRACTICUM-BIRTH THROUGH AGE 4 The field-based component of this course will provide experiences that address curriculum content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health science, social skills, and adaptive learning for children birth through age four, is emphasized. As assigned by the instructor, you will be engaged in specific responsibilities for 75 hours in field and/or lab experiences. You must have a background check on file with the College of Education. Co-requisite: ECE 224 (Fall). (2, 0T+2L)

254 CURRICULUM DEVELOPMENT AND IMPLEMENTATION AGE 3 THROUGH GRADE 3 The curriculum course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills, is emphasized. Information on adapting content areas to meet the needs of children with special needs and development of IEPs is included. Co-requisite: ECE 264 (Spring) (3,3T+0L)

264L LAB–PRACTICUM-AGE 3 THROUGH GRADE 3 The filed-based component of this course will provide experiences that address developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEPs is included. As assigned by the instructor, you will be engaged in specific responsibilities for 75 hours in field and/or lab experiences. You must have a background check on file with the College of Education. Co-requisite: ECE 254 (Spring) (2,0T+2L)

285 GUIDING YOUNG CHILDREN This course explores various theories of child guidance and the practical applications of each. It provides developmentally appropriate methods for guiding young children and effective strategies and suggestions for facilitating positive social interactions. Strategies for preventing challenging behaviors through the use of environment, routines and schedule will be presented. Emphasis is placed on helping children become self-responsible, competent, independent, and cooperative learners and including families as part of the guidance approach. (Spring) (3, 3T+0L)

295 ASSESSMENT OF CHILDREN AND EVALUATION OF PROGRAMS This basic course familiarizes students with a variety of culturally appropriate assessment methods and
instruments, including systematic observation of typically and on-typically developing children. The course addresses the development and the use of formative and summative assessment and evaluation instruments to ensure comprehensive quality of the total environment for children, families, and the community. Students will develop skills for evaluating the assessment process and involving other teachers, professionals and families in the process. (3, 3T+0L)

**ECONOMICS (ECON)**

200 MACROECONOMICS Introduction to the fundamental principles underlying the operation of a market economy on a global scale, mainly with problems of unemployment and inflation. Also discusses related problems of income redistribution and international trade and exchange rates, and economic growth and development. Prerequisite: ENG 109N. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area IV Social and Behavioral Sciences (NMCCN ECON 2113)

201 MICROECONOMICS Focuses on the problems specific to a household, firm, or industry, rather than those of a national or worldwide scale. Topics of concern are household and firm behavior, demand and supply, market structures, labor, and capital. This course concentrates on the economics of the consumer, the business firm, the distribution of income, and the efficient allocation of resources. Prerequisite: ENG 109N. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area IV Social and Behavioral Sciences (NMCCN ECON 2123)

**EDUCATION (ED)**

201 FOUNDATIONS OF EDUCATION This course introduces you to the basics of the teaching profession. It includes societal expectations of teachers, social problems which impact students, essential knowledge needed for teaching, recent reforms in education, historical perspectives on education, the role of schools in today's society, school governance, and the legal and ethical issues in education. Further, you will be expected to begin to articulate your philosophy of education. Prerequisite: ENG 111; Co-requisite: ED 213 (3, 3T+0L)

213 LAB I You will do initial observations of classroom environments and determinations of what classroom teacher do. You will participate in seminars and observe 37.5 hours of classroom instruction in the field. You must have a background check on file with the College of Education. Prerequisite: ENG 111, or permission of instructor; Co-requisite: ED 201(1, 0T+1L)

215 LAB II This course is designed to supplement ED 226. As assigned by the instructor, you will be engaged in specific responsibilities for 37.5 hours in the field and/or lab experiences. You must have a favorable background check on file with the College of Education. Co-requisite: ED 226. (1,0+1L)

216 SCIENCE AND MATH This course prepares teacher credential candidates to use best practices in science and math teaching for K-8 students. Students will 1) Understand the nature and purpose of teaching constructivist, inquire-based science and math in the elementary school curriculum, especially FOSS and STC lessons used in northern New Mexico School Districts. 2) Make connections between the teaching of science and math in the classroom and learn why science and math should matter to people in northern New Mexico. 3) Explore best methods in teaching science and math to children of diverse ethnic, cultural and linguistic backgrounds. 4) Become knowledgeable of the current National Science Education Standards and Benchmarks (Next Generation Science Standards). Prerequisites: Math 150 and a 4 credit science course with lab. (3, 3T+0L)
220  EDUCATIONAL PSYCHOLOGY  Introduces you to psychological principles as they apply to teaching and learning. You will examine the relationships between theory, research, and practice in learning, memory, child development, motivation, and educational assessment for the school setting. You will address cognitive, linguistic, affective, and social development, with particular attention to the K-8 learner. Emphasis is on the integration of theory and practice, with numerous classroom applications of psychological theories and principles. Prerequisites: ED 201 and PSY 105. (3, 3T+0L)

222  MATH FOR EDUCATORS I  This course is designed to prepare you to teach the National Council of Teachers of Mathematics Standard 1, K-8, Numbers and Operations, and Standard 2, K-8 Algebra, integrated with Standards 6, 7, 8, 9, and 10 Problem Solving, Reasoning and Proof, Communications, Connections, and Representations. You will be assessed based on performance measures designed to demonstrate mastery of mathematical concepts. You will participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: MATH 150. (3, 3T+0L)

226  STRATEGIES FOR SUCCESSFUL CLASSROOMS  You will develop a rationale and plan for creating classroom procedures, routines, and structures that lead to increased student learning and teacher classroom management. You will research and also be presented with learning theories and research that result in the creation of learning environments which are safe emotionally, physically and psychologically. You will understand the principals involved in motivating students and overcoming resistance to learning. Co-requisite: ED 215. (2, 2T+0L).

410  TEACHING AND DIAGNOSIS OF READING  This course provides you with a conceptual framework for understanding the growth of language development and literacy throughout the elementary years. You will be introduced to instructional strategies to build reading, writing, and speaking abilities in your students. The course will address literacy differences through a standards approach to instruction, focusing on cognitive, affective, social, and cultural factors that created differences in literacy abilities. Common Core State Standards are incorporated into this course. You will be required to do field work. Prerequisites: ED 201, 213 and Passing NES, Essential Academic Skills (I, II, III) Test. (3, 3T+0L)

411  LAB III  Designed to supplement the Teaching and Diagnosis of Reading Course (ED 410). As assigned by the instructor, you will be engaged in specific responsibilities for 37.5 hours in the field and/or lab experiences. Co-requisite: ED 410. (1, 0T+1L)

450  PEDAGOGY AND LEARNING (WIC)  This course will help the student to develop a solid theoretical foundation in education and a critical view of various educational practices and theories. Students will review aspects related to the social, emotional, physical, and cognitive development of students and will understand the role of regular education teachers in teaching students with disabilities in the regular classroom. Students will learn about the different disabilities covered under IDEA and also will explore brain-based, multiple intelligences, multi-sensory instruction and different learning styles. Prerequisites: ED 201, 213 (Cross-listed with ED 452). (3, 3T+0L)

460  TEACHING READING AND WRITING (ELEM)  This course provides you with an overview of literacy and language development, and focuses on the development and implementation of research based reading instructional approaches at the elementary level. This course will emphasize the integration of Common Core State Standards. (3, 3T+0L)

475  CURRICULUM METHODS AND MATERIALS FOR SPECIAL EDUCATION  You will focus on teacher knowledge and application skills in teaching curricula aligned with Common Core State Standards. You will explore areas of individualized modifications and/or accommodations when the general education curriculum is not appropriate. You will
address instructional strategies in meeting the needs of the special learner with transition as a major component, with emphasis on the application of technology to support teaching and learning. You will address and integrate the Individual Education Plan (IEP) throughout the learning process. **Prerequisite:** ED 201, 213, and passing NES, Essential Academic Skills (I, II, III). Cross-listed with SPED 475 (3, 3T+0L).

**479 STUDENT TEACHING** This is a full-time assignment during the semester, in conjunction with ED 480 (Student Teaching Seminar). You will be engaged in a minimum of 16 weeks of student teaching. You will follow the daily schedule of the assigned grade, assume regular faculty and out-of-classroom duties, participate in faculty meetings, PTA/PTO meetings, and other appropriate school-community activities. Your final placement in a school is decided by the College of Education, contingent upon your being acceptable to the school in which you will do your teaching. You must have already passed and provided documentation to the College of Education regarding the New Mexico Teacher Assessments required by the New Mexico Public Education Department (Essential Academic Skills – Subtests I< II< and III; Assessment of Professional Knowledge: Elementary Education – Subtests I and II; and Essential Components of Elementary Reading Instruction). **Prerequisite:** Student Teaching Interview **Co-requisite:** ED 480. (12, 0T+12L)

**480 STUDENT TEACHING SEMINAR** This course provides you interaction with guided discussion on reflections of the student teaching experience. Supplemental requirements include outside readings based upon educational research and corresponding reflective papers. **Prerequisite:** Student Teaching Interview. **Co-requisite:** ED 479. (1, 1T+0L)

**495 ASSESSMENT AND EVALUATION OF STUDENT LEARNING** Explores the construction and utilization of teacher-made and standardized tests. You will learn to gather data, report, and communicate assessment results to students, parents, and administrators in a variety of ways in an effort to meet diverse student needs. You will become familiar with the local school district’s testing program and will develop valid evaluation tools to measure student outcomes. You will participate in seminars and observe 10 hours of classroom instruction in the field. **Prerequisite:** Passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

**497 UNDERGRADUATE RESEARCH** This course is designed to encourage students to pursue an important area of research under the supervision of an education faculty member. Students will have the opportunity, in consultation with faculty, to study a topic in depth and design their own action-research project to contribute to the area’s body of knowledge. Specific topics are indicated on student official academic transcripts. **Prerequisites:** admission to the professional program, permission of instructor and dean of College of Education. Can be created as a 1–3 credit hour course. (1-3, 1-3T+0L)

**EDUCATION – BILINGUAL EDUCATION (EDBE)**

Prerequisite for these programs is at least 6 credit hours in Spanish as a Heritage Language, or permission from the department.

**305 SPANISH LITERACY FOR BILINGUAL EDUCATION** You will study the practical implementation of Spanish literacy skills, including reading, writing, listening, and speaking. This course will be taught in Spanish. **Prerequisites:** SPAN 101 and 102. (3, 3T+0L)

**306 SPANISH FOR THE BILINGUAL CLASSROOM** This course will present the Spanish language as it is applied to school community settings in addition to the classroom setting. It will include both vernacular and formal language. Spanish will be the language of instruction inclusive of student presentations and participation. **Prerequisites:** SPAN 101 and 102. (3, 3T+0L)
EDUCATION – TEACHING ENGLISH AS A SECOND LANGUAGE

403 FOUNDATIONS OF BILINGUAL/ESL MULTICULTURAL EDUCATION This course focuses on the historical, legal, philosophical, theoretical paradigms of bilingual/ESL multicultural education. An emphasis on developing a deeper understanding of the culturally diverse student, their families and communities as it relates to learning is explored. Prerequisites: SPAN 101 and 102. (Cross-listed with EDTE 403). (3, 3T+0L)

406 METHODS AND MATERIALS OF TEACHING BILINGUAL ESL This course focuses on the understanding of teaching methodologies in the bilingual/ESL classroom. A variety of instructional strategies, techniques, and alternative assessments will be explored with an emphasis on critical reflective practice. Prerequisites: SPAN 101 and 102. (Cross-listed with EDTE 406) (3, 3T+0L)

412 FORMAL/INFORMAL ASSESSMENT This course will focus on the formal and informal assessment measures with emphasis on English language development as it relates to reading and writing. You will develop a foundation of assessment theories, practices, and strategies with particular attention on how to link assessment to instructional activities. You will gain practical experience in designing, administering and interpreting assessments, with special attention to assessment instruments used in New Mexico. Prerequisites: SPAN 101 and 102. (Cross-listed with EDTE 412). (3, 3T+0L)

416 SECOND LANGUAGE ACQUISITION This course explores theories of both first and second language acquisition. It will also examine the relationship between language use and language development in the home, school and community. An emphasis will be placed on developing an understanding of language acquisition and bilingualism in a classroom environment. Prerequisites: SPAN 101 and 102. (Cross-listed with EDTE 416) (3, 3T+0L)

481 LINGUISTICS & PHONETICS FOR THE BILINGUAL TEACHER This course will apply linguistics and phonetics to the knowledge and use of Spanish in order to provide future teachers the ability to help students develop their language. It will cover the Spanish sound system, and include phonology, morphology, syntax, and dialectology of the Spanish language. Prerequisites: SPAN 101 and 102 (3, 3T+0L)

482 SPANISH LANGUAGE & FOLKLORE OF NEW MEXICO FOR THE BILINGUAL TEACHER This course will cover aspects of New Mexican language and folklore: linguistic structure, regional and social variation, bilingualism, maintenance and shift, English influence, etc. It will also cover folkways of the Spanish-speaking people of New Mexico. Prerequisites: SPAN 101 and 102. (3, 3T+L)

EDUCATION – TEACHING ENGLISH AS A SECOND LANGUAGE/TESOL (EDTE)

Prerequisite for these programs is at least 6 credit hours in a language other than English, or permission from the department.

403 FOUNDATIONS OF BILINGUAL/ESL MULTICULTURAL EDUCATION This course focuses on the historical, legal, philosophical, theoretical paradigms of bilingual/ESL multicultural education. An emphasis on developing a deeper understanding of the culturally diverse student, their families and communities as it relates to learning is explored. (Cross-listed with EDBE 403). (3, 3T+0L)

406 METHODS AND MATERIALS OF TEACHING BILINGUAL ESL This course focuses on the understanding of teaching methodologies in the bilingual/ESL classroom. A variety of instructional strategies, techniques, and alternative assessments will be explored with an emphasis on critical reflective practice. (Cross-listed with EDBE 406) (3, 3T+0L)

408 APPROACHES TO TEACHING ENGLISH LITERACY SKILLS This course focuses on effective writing instruction in the bilingual and TESOL classroom. The relationship
between listening, speaking, reading and writing are explored to enhance the identification and development of effective instruction strategies and appropriate curriculum. Contextual factors that impact writing instruction across the content areas, such as the home environment, school environment, culture cognition, and assessment are examined. (3, 3T+0L)

**412 FORMAL/INFORMAL ASSESSMENT** This course will focus on the formal and informal assessment measures with an emphasis on English language development as it relates to reading and writing. You will develop a foundation of assessment theories, practices, and strategies with particular attention on how to link assessment to instructional activities. You will gain practical experience in designing, administering and interpreting assessments, with special attention to assessment instruments used in New Mexico. (Cross-listed with EDBE 412). (3, 3T+0L)

**414 INTRODUCTION TO LINGUISTICS** You will be exposed to a broad overview of the field of linguistics as it pertains to the knowledge of language and language development. There is an emphasis on the study of phonetics, phonology, morphology, syntax, semantics and pragmatics. This course is oriented primarily to the needs of present and prospective teachers. (3, 3T+0L)

**416 SECOND LANGUAGE ACQUISITION** This course explores theories of both first and second language acquisition. It will also examine the relationship between language use and language development in the home, school and community. An emphasis will be placed on developing an understanding of language acquisition and bilingualism in a classroom environment. (Cross-listed with EDBE 416) (3, 3T+0L)

**EDUCATION – ALTERNATIVE LICENSIURE PROGRAM (ED)**

Those enrolled in this program must achieve a minimum grade of ‘B” for each of the following:

**401 FOUNDATIONS OF EDUCATION** This course introduces you to the basics of the teaching profession. It includes societal expectations of teachers, social problems which impact students, essential knowledge needed for teaching, recent reforms in education, historical perspectives on education, the role of schools in today’s society, school governance, and the legal and ethical issues in education. Further, you will be expected to begin to articulate your philosophy of education. You will participate in seminars and observe 10 hours of classroom instruction in the field. **Co-requisite:** ED 452. (3, 3T+0L)

**412 TEACHING AND DIAGNOSIS OF READING** This course provides a conceptual framework for understanding the growth of language development and literacy throughout the elementary years. You will be introduced to instructional strategies to build reading, writing, and speaking abilities in your students. The course will address literacy differences through a standards based approach to instruction, focusing on cognitive, affective, social and cultural factors that created differences in literacy abilities. Common Core State Standards are incorporated into this course. You will participate in seminars and observe 10 hours of classroom instruction in the field. **Prerequisite:** NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

**452 PEDAGOGY AND LEARNING** This course will help the student to develop a solid theoretical foundation in education and a critical view of various educational practices and theories. Students will review aspects related to the social, emotional, physical and cognitive development of students and will understand the role of regular education teachers in teaching students with disabilities in the regular classroom. Students will learn about the different disabilities covered under IDEA and also will explore brain-based, multiple intelligences, multi-sensory instruction and different learning styles. **Co-requisite:** ED 401. (Cross listed with ED 450) (3, 3T+0L)
EDUCATION – ALTERNATIVE LICENSURE PROGRAM

462/509  READING AND WRITING ACROSS THE CURRICULUM (SECONDARY) Provides an overview of literacy and language development, and focuses on the development and implementation of an integrated curriculum approach at the secondary level. You will explore and practice alternative reading assessments which focus on teaching strategies incorporating state content and benchmarks. You will participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: ED 401 and passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

464/504  READING AND TEACHING WRITING (ELEMENTARY) The course provides an overview of literacy and language development, and focuses on the development and implementation of research-based reading instructional approaches. This course emphasizes the integration of Common Core State Standards. Prerequisite: ED 401 and passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

474  METHODS AND MATERIALS IN SECONDARY EDUCATION This course explores the methods and materials appropriate in a secondary learning environment. You will learn teaching strategies, assessments, adaptive teaching for student learning styles, integration of content areas, and block scheduling. Alternatives to lecture are emphasized, with diversity of multiculturalism as a major focus. You will participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: Passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

493  THE INTEGRATED ELEMENTARY CLASSROOM Explores the historical and theoretical perspectives underlying and supporting the integrated curriculum approach to teaching and learning. You will explore practical approaches to thematic instruction and integration of Common Core State Standards. Components include assessment methods, lesson plans, and curriculum planning and classroom management. You will participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: Passing NES, Essential Academic Skills (I, II, III). (2, 2T+0L)

495  ASSESSMENT AND EVALUATION OF STUDENT LEARNING Explores the construction and utilization of teacher-made and standardized tests. You will learn to gather data, report, and communicate assessment results to students, parents, and administrators in a variety of ways in an effort to meet diverse student needs. You will become familiar with the local school district’s testing program, will develop valid evaluation tools to measure student outcomes, and will participate in seminars and observe 10 hours of classroom instruction in the field. Cross-listed with ED 495 in BA in Elementary Education program. Prerequisite: ED 401 and passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L).

496  SUPERVISED FIELD EXPERIENCE (ELEM/SEC) This course provides an interaction with other students in the elementary/secondary field-experience setting. Guided discussions address classroom management, student learning, lesson plans, discipline, school/home communication, and professional development. Additional areas include professional issues and ethics, and portfolio preparation. Prerequisite: Passing NES, Essential Academic Skills (I, II, III); Co-requisite: Passing remaining NES Assessments required by the New Mexico Public Education Department (Competency, Content Knowledge, and Reading, if Elem). (Cross-listed with SPED 497) (1,1T+0L)

496L  SUPERVISED FIELD EXPERIENCE LAB (ELEM/SEC) Provides a field experience in an appropriate elementary/secondary classroom setting under the advisement and supervision of a mentor teacher and college supervisor; emphasizes observation of student learning styles, teaching strategies, classroom management, and discipline. Requires 100 (75 Clock Hours + 25 Assessment and Accountability Framework hours) of practicum in the field, which includes a seminar. Interaction with students on a one-to-one basis and in small group settings is provided. Prerequisite: Passing NES, Essential Academic Skills (I, II, III);
Co-requisite: Passing remaining NES Assessments required by the New Mexico Public Education Department (Competency, Content Knowledge, and Reading if Elem). (Cross-listed with SPED 497) (2, 0T+2L)

**ELECTRICAL TECHNOLOGY (ELEC)**

**110 INTRO TO SOLAR ELECTRICITY** You will study the basics of electrical wiring technology found in photovoltaic systems, including direct current (DC) and alternating current (AC) circuits. You will review basic electrical theory and the current National Electrical Code (NEC) requirements. You will be introduced to the components found in grid-tied systems and stand-alone systems and given the opportunity to compare these systems. (1, 1T+0S)

**110L INTRO TO SOLAR ELECTRICITY LAB** In this course, you will have laboratory experiences which apply to the theoretical material covered in ELEC 110. You will work with AC and DC components, methods, tools, and materials needed to connect photovoltaic systems from collector module wiring to panels to batteries to inverters to grid-tie equipment. Safety in the electrical environment is stressed. (2, 0T+2S)

**140 ELECTRICAL THEORY I** Basic electrical theory, OHMs Law, series and parallel circuits, electrical symbols, AC and DC circuits. (3, 3T+0S)

**141 ELECTRICAL CODE I** National Electrical Code (NEC) requirements for single and multi-family dwellings, use of NEC tables and calculations. (3, 3T+0S)

**142L RESIDENTIAL WIRING LAB** Practical applications and operations in wiring techniques and codes for residential projects; tool safety, hardware use and identification. (6, 0T+6S)

**150 ELECTRICAL THEORY II** Basic principles of electromagnetic induction as applied to electric motors, transformers, and solenoid coils. (3, 3T+0S)

**151 ELECTRICAL CODE II** Code interpretation for commercial, industrial, and hazardous locations; load calculations, over-current protection and grounding. (3, 3T+0S)

**152L COMMERCIAL WIRING LAB** Practical applications and operations using field work: wiring techniques and codes for assigned commercial and industrial projects. (6, 0T+6S)

**160 MOTOR CONTROLS** Theory in across-the-line starters, solid-state control, programmable control, pilot devices, line and wiring diagrams, troubleshooting, repair techniques. **Co-requisite:** ELEC 160L. (3, 3T+0S)

**160L MOTOR CONTROLS LAB** **Co-requisite:** ELEC 160. (3, 0T+3S)

**190 SOLAR AND WIND SYSTEMS IN THE ELECTRICAL CODE** Starting with a review of DC electrical circuits, you will cover Sections 690 and 695 of the National Electrical Code, which deals with photovoltaic and wind-generated electrical systems. You will discuss conductor sizes, circuits, outlets, disconnects and over-current protection between the energy source and the service entrance. Recommended **Co-requisites:** RE 207 or 208. (2, 1T+1S)

**ELECTRICAL, ELECTRONIC, AND COMPUTER ENGINEERING (EECE)**

**105L MICROCOMPUTER SYSTEMS** In this introductory course on microcomputers, you will study the characteristics and nature of modern-day computer systems, including hardware and software components. Among the principal software components, the course describes the roll of operating systems, and then focuses on Linux. The course provides the background knowledge and skills in Linux you will require for any type of engineering, technology or computer science related career. The course also includes an introduction to scripting languages and their benefits to automate operating systems tasks. (Fall, Spring) (3, 2T+1L)
111  INTRODUCTION TO WEB PROGRAMMING  In this course, you will be introduced to web design and to the standards and languages for the Web. You will gain hands-on experience on design issues specific to the Web, learn webpage layout, and effective navigation. You will learn the process of webpage publishing and develop an understanding of the technologies that support the Web. No prerequisite. (3, 2T, +1S).

132  COMPUTER NETWORKS I  Students will learn both practical and conceptual skills that build the foundation of networking. They will examine the OSI and TCP/IP layers in detail to understand their functions and services. Students will become familiar with the various network devices, network addressing schemes, and types of media used to carry data across the network. They will gain experience designing and deploying inter-networks of WAN and LANs using static routing. (3, 2T+1S).

152L  COMPUTER PROGRAMMING  This is an introductory programming class. No programming experience is assumed for students taking this course. Topics include problem solving, program design, implementation, testing and basic object-oriented concepts including classes, object, and encapsulation. (Fall and Spring) (3, 2T+1L).

203L  CIRCUIT ANALYSIS I  You will study basic electrical elements and sources; energy and power; Ohm’s and Kirchhoff’s Laws; resistive networks, node and loop analysis; network theorems; first and second order circuits; sinusoidal sources and complex representations; impedance, phasors’ complex power; and three-phase circuits. Prerequisite: PHYS 216/L. (Fall) (3, 2T+1L).

213  CIRCUIT ANALYSIS II  You will study general transient analysis of electrical circuits; Laplace transform with application to circuit analysis; state-space equations; Fourier series analysis; the network function, convolution, and frequency response. Prerequisites: MATH 314 and 316, and EECE 203L. (Spring) (3, 2T+1L).

220  NETWORK AND SERVER SOFTWARE  By the end of this course, which includes an overview of networking architecture, services, and features covering hardware requirements, software installation, and system administration through an exploration of server software based on an organization’s needs, you will install and configure a variety of software, primarily Linux and Free/Open Source projects. Prerequisite: EECE 132. (4, 2T+2S).

230  INTRODUCTION TO ROUTING AND SWITCHING  This course describes the architecture, components, and operations of routers and switches. Students learn how to design Local Area Networks (LANs), Wide Area Networks (WANs), and inter-networks using modern intermediate devices, including Layer 2 and multi-layer switches and routers. By the end of this course, students are able to design and deploy networks and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Prerequisite: EECE 132. (3, 3T+0L).

231L  INTERMEDIATE PROGRAMMING  This class teaches how to write medium complex computer programs that make use of structured decomposition, basic data structures, strings, recursion, files and dynamic memory. Knowledge of basic programming concepts is assumed. Prerequisite: EECE 152L (3, 2T+1L).

238L  COMPUTER LOGIC DESIGN  You will study binary number systems, Boolean logic; combinatorial, sequential, and register transfer logic; VHDL; arithmetic/logic unit; memories, computer organization, input-output, and microprocessors. Prerequisites: ENGR 120 or MATH 150 and EECE 152L. (Cross-listed with CS 238L) (Spring) (4, 3T+1L).

251L  ADVANCED PROGRAMMING  This advanced programming class exposes the student to computer science and software engineering concepts such as Object-Oriented Design, date structures, graphical user interfaces and threads. The students will use an
ELECTRICAL, ELECTRONIC AND COMPUTER ENGINEERING

object-oriented language to learn about these concepts. **Prerequisite:** EECE 231L. (Fall & Spring) (3, 2T+IL)

314 **SIGNALS AND COMMUNICATION** You will study linear system analysis; signal spectra; Fourier series and transforms; modulation and demodulation schemes, sampling theorem, discrete time signals, discrete time Fourier series and transform, elements of z-transform. **Prerequisites:** EECE 213 and MATH 163. (Fall) (3, 3T+0L)

321 **ELECTRONICS I** You will be introduced to diodes, bipolar and field-effect transistors; analysis, design and characterization of linear amplifiers; analysis and design of operational amplifiers and their circuit applications. **Prerequisite:** EECE 213. (Fall) (3, 3T+0L)

322 **ELECTRONICS II** You will study the design of multistage, operational amplifiers and feedback circuits; analysis and design of common digital integrated circuits; gates, flip-flops, and multivibrators. **Prerequisite:** EECE 321. (Spring) (3, 3T+0L)

327L **ELECTRONICS LAB** You will engage in laboratory experiments in analog and digital electronics. **Prerequisite:** EECE 321. (Spring) (2, 1T+1L)

329 **HUMAN COMPUTER INTERACTION** This course covers the development of IT products considering the human-computer interaction, including human factors, performance analysis, usability studies, environment, and training. The course also covers the development of effective interfaces and accessibility. **Prerequisite:** EECE 251L. (3, 3T+0L)

330 **COMPUTER NETWORKS II** This course focuses on learning network design and operation from a layer 3 perspective, including both intra-domain static routing and dynamic routing protocols. Students will describe how routers discover remote networks and determine the best path to them. They will design addressing schemes and deploy WANs, LANs and inter-networks using static routing as well as RIPv1, RIPv2, EIGRP, and OSPF protocols. Based on these protocols, students will identify the characteristics of distance vector and link state routing protocols. They will learn fundamental tools for routing scalability, and will design hierarchical routing schemes with OSPF. Students will describe the concept of traffic engineering and apply multi-path schemes. **Prerequisite:** EECE 132. (3, 2T+1S)

331 **DATA STRUCTURES AND ALGORITHMS** You will be introduced to data structures and algorithms used in software programs; mathematics needed to analyze their time and space complexity. Topics include asymptotic notation, recurrence algorithms and their sorting, hash tables, basic priority queues, search trees, and basic graph representation and search. **Prerequisites:** EECE 231 and EECE 337. (3, 3T+0L)

337 **INTRODUCTION TO COMPUTER ARCHITECTURE AND ORGANIZATION** You will survey various levels of computer architecture and design; microprogramming and processor architecture, advanced assembly language programming, operating system concepts, and input/output via the operating system. **Prerequisites:** EECE 238L and CS 241. (Fall) (3, 3T+0L)

340 **PROBABILISTIC METHODS IN ELECTRICAL ENGINEERING** You will study probability axioms, random variables, mean, variance, characteristic functions, transformation of random variables, confidence intervals, jointly defined random variables, multi-variate Gaussian variables, conditional probability densities, random processes, correlation, power spectrum, white noise, Markov processes and chains, transmission of noise through linear systems. **Prerequisites:** EECE 314 and MATH 314. (Spring) (3, 3T+0L)

342 **WIRELESS AND MOBILE COMPUTING** This course focuses on principles and applications of wireless networks and Local Area Networks (LANs) including switches, Virtual LANs (VLANs) and extended switched networks. The course also provides an overview of mobile devices and an introduction to network security including message integrity,
authentication and operational security in switched and wireless networks. *Prerequisite:* EECE 132 (3, 2T+1S)

**344L MICROPROCESSORS** You will study computers and microprocessors; architecture, assembly language programming, input/output and applications. *Prerequisite:* EECE 322. (Fall) (4, 3T+1L)

**351 ADVANCED PROGRAMMING** This is an advanced programming class that exposes the student to computer science and software engineering concepts such as Object-oriented Design, data structures, graphical user interfaces and thread. The students will use an object-oriented language to learn about these concepts. *Prerequisite:* EECE 231. (Spring) 3, 2T+1L)

**355 WEB ENGINEERING** This course covers the design, implementation and testing of web-based applications including related software, database, interfaces and digital media. It also covers social, ethical and security issues arising from the web and social software. *Prerequisites:* IT 250 and EECE 231L. (3, 2T+1S)

**360 ELECTROMAGNETIC FIELDS AND WAVES** You will study Maxwell’s equations, plane wave propagation, waveguides and transmission lines, transient pulse propagation and elementary dipole antenna. *Prerequisites:* EECE 213, PHYS 216/L, and MATH 163. (Spring) (3, 3T+0L)

**371 MATERIALS AND DEVICES** You will be introduced to quantum mechanics, crystal structures, insulations, metals, and semiconductor material properties, bipolar field effect, and light emitting devices. *Prerequisite:* PHYS 216/L. (Fall) (3, 2T+1L)

**390 POWER SYSTEMS** You will study mechanical and electrical properties of machinery for power generation or deployment; network or grid design of distribution of power; sources of electric power and their characteristics of energy conversion efficiency, cost, and environmental impact; introduction to electric energy storage. (Cross-listed with ME 390) *Prerequisites:* ME 306 and 317, and EECE 203L. (Spring) (3, 3T+0L)

**432 INTRODUCTION TO PARALLEL PROCESSING** Machine taxonomy and introduction to parallel programming; performance issues, speed-up and efficiency; interconnection networks and embedding; models of data flow. *Prerequisites:* EECE 231 and 337. (Spring) (3, 3T+0L)

**435 SOFTWARE ENGINEERING** As junior- and senior-level science and engineering students, you will study modeling the process and life cycle, planning and managing the software project, designing, delivering, and maintaining the software systems. *Prerequisite:* EECE 231 and IT 250. (Fall) (3, 3T+0L)

**437 OPERATING SYSTEMS** You will study the structure and functions of operating systems; synchronization and mutual exclusion; process, memory, and storage management; resource allocation and deadlock; multi-core processors, clustered computers, and virtual machines. *Prerequisite:* EECE 152L. (3, 3T+0L)

**440 ADVANCED COMPUTER NETWORKS** Students will research, design, and implement a variety of WANs considering different technologies and protocols such as Frame Relay and PPP. Students will also implement multimedia applications over WANs, and develop knowledge and expertise in network security and management. *Prerequisites:* EECE 330 and EECE 342, (Fall, Spring, Summer) (3,2T+1S).

**441 INTRODUCTION TO COMMUNICATION SYSTEMS** You will study modulation methods—amplitude, phase, frequency and pulse dimensional, sideband shaping, synchronous and asynchronous mod/demod, timing recovery, phase-lock loops, equalizers—fixed and self-adjusting, linear and nonlinear impairments, effects of noise, spread spectrum by code or frequency hopping. *Prerequisites:* EECE 314 and 340. (Fall) (3, 3T+0L)
447  ROUTING AND SWITCHING  You will learn how to connect computers in a network and how to connect the separate networks together to form an inter-network, through examination and implementation of bridging, switching concepts, and routing protocols and algorithms.  Prerequisite: EECE 330.  (3, 2T+1S)

452  POWER CONTROLLERS  You will study power supply design, DC-DC and DC-AC conversion devices, electric power measurement devices, frequency and power level stabilizers; regulators, smart metering.  Prerequisite: EECE 321.  (Spring)  (3, 2T+1L)

453  ELECTRIC ENERGY STORAGE DEVICES  Student will study electrochemical, electrostatic, and electromechanical processes for storage of electrical energy; design of storage systems; storage efficiency measures.  Prerequisite: EET 220/L.  (3, 3T+0L)

461  SOFTWARE AND DESIGN  This course introduces software design and software configuration management (SCM). Design concepts, design strategies, architectural design and human computer interface design etc., will be covered. SCM principles, advanced topics and implementation procedures in one accessible resource will also be covered. It maps the integration of SCM activities within the software development life cycle. It explores the latest advances in SCM tools, SCM organization, operation and maintenance of SCM systems.  (Fall)  Prerequisite: EECE 435  (3T+0L)

462  SOFTWARE PROCESS AND MANAGEMENT  This course introduces the practical approach to improve the software process through process assessment, combined with people factors such as organizational culture and team based improvement. The process assessment will include setting Target Profiles, Process Capability Determination and Process Improvement. It will also cover a standard assessment method and variants, plus how to rate a process up to ISO/IEC 15504 capability level 5. The software management will also be covered in this course, including management concepts, project planning and project control et.al.  Prerequisite: EECE 435.  (Spring)  (3T+0L).

463  SOFTWARE MODELING AND ANALYSIS  This course will cover modeling foundations, software models, and analysis fundamentals.  Prerequisite: EECE 435 (Fall)  (3T+0L)

470  SOFTWARE QUALITY ASSURANCE  As junior- and senior-level science and engineering students, you will study software quality assurance, covering such topics as software verification and validation, structural testing, functional testing, software testing metrics and strategies, and software quality assurance and engineering.  Prerequisite: EECE 435.  (Spring)  (3, 3T+0L)

472  PHOTOVOLTAIC DEVICES  Student will study Photovoltaic effect in semiconductors; electrical and mechanical design of photovoltaic cells, panels, and systems; use of lenses and mirrors in PV systems; manufacturing methods of PV devices.  Prerequisite: EET 200/L.  (3, 3T+0L)

490  CAPSTONE I IN SOFTWARE ENGINEERING  A project course in which you will exercise your knowledge of computer and software engineering.  Prerequisite: EECE 152L  (4, 2T+2L)

491  CAPSTONE II IN SOFTWARE ENGINEERING  A project course in which you will exercise your knowledge of computer and software engineering.  Prerequisite: EECE 152L  (4, 2T+2L)

547  ROUTING AND SWITCHING  Computer networking principles and operational structures of bridges, routers, routers. Packet switching techniques, routing protocols and packet processing algorithms. EECE 547 has higher standards and different deliverables than EECE 447.  (3, 2T+1S)
ELECTRICAL ENGINEERING TECHNOLOGY (EET)

200 ELECTRICAL SYSTEMS I Study basic DC electrical elements and sources; energy and power; Ohm’s and Kirchhoff’s Laws; resistive networks; nodal and mesh analysis; and network theorems. Students will also be introduced to digital circuits and will learn Boolean logic, logic gates, combinational and sequential circuits. **Prerequisite:** ENGR 120L, **Co-requisite:** EET 200L. (3, 3T+0L)

200L ELECTRICAL SYSTEMS I LAB Students will perform hands-on experiments related to DC circuits and digital circuits. This will include voltage, current, resistance measurement. First order and second order circuits will be analyzed as well as Thevenin’s equivalence. Students will learn to implement and analyze digital circuits using VHDL to develop combinatorial and sequential circuits. **Prerequisite:** ENGR 120L, **Co-requisite:** EET 200L. (1, 0T+1L)

300 ELECTRICAL SYSTEMS II Study basic AC electrical elements; sinusoidal sources and complex representations; impedance, phasor, analysis, complex power, three-phase circuits, and transformers. Students also will be introduced to electronic devices: diode, transistor, thyristors, rectifiers, OPAMPs and its applications. **Prerequisites:** EET 200/L, **Co-requisite:** EET 300L. (3, 3T+0L)

300L ELECTRICAL SYSTEMS II LAB Students will perform hands-on experiments related to AC circuits and electronic circuits. This will include sine wave and power factor measurement. Implementation of three-phase circuits and transformers. The labs will also expose the student to electronics including rectifiers, amplifiers, and applications of thyristors, TRIACA and OPAMPS. **Prerequisites:** EET 200/L, **Co-requisite:** EET 300L. (1, 0T+1L)

400 CONTROL SYSTEMS AND INSTRUMENTATION The course covers control systems terminology, analog and digital feedback control system, PID and relay controls, data-acquisition system, stability, actuators and sensors. **Prerequisites:** EET 300/L, **Co-requisite:** EET 400L. (3, 3T+0L)

400L CONTROL SYSTEMS AND INSTRUMENTATION LAB The course covers experiments, design and implementation of control systems. Control systems will be developed in discrete time using digital PID and also for discrete events using PLCs. **Prerequisites:** EET 300/L, **Co-requisite:** EET 400L. (1, 0T+1L)

ELECTROMECHANICAL ENGINEERING TECHNOLOGY (EMET)

400 ADVANCED ELECTRO-MECHANICAL DESIGN This course is integration of mechanical disciplines, controls, electronics and computers in the design of high-performance machines, devices or processes. Hands-on lab exercises and design projects will provide extensive coverage of mechanical components and assembly, sensors and actuators, electrical drive. **Prerequisites:** EET 200/L, DRFT 100 and MET 302. (3, 3T+0L)

490 CAPSTONE I (WIC) In this project course, students will exercise their knowledge of Electromechanical Engineering Technology, design and associated course work. EMET 490 is a Writing, Intensive Course (WIC). (3, 1T+2L)

491 CAPSTONE II In this project course, student will exercise knowledge of Electromechanical Engineering Technology, design and associated course work. **Prerequisite:** Senior Standing. (3, 1T+2L)

ENGINEERING (ENGR)

110L INTRODUCTION TO ENGINEERING This course is intended to provide an introduction to the engineering discipline. The course also provides a learning community experience for the mechanical engineering and information technology engineering stu-
students. Topics discussed include: departmental policies, code of ethics in engineering, history of engineering, introduction to writing technical reports, time management, introduction to concepts and techniques in computer programming. Students are exposed to intensive hands-on experiences that are assessed through a final project. Fall & Spring (2, 1T+1S)

115 BASIC MATH FOR ENGINEERING APPLICATIONS This is an accelerated math program for engineering students. Students will learn in a self-paced way, then typical concepts in Math 102, Math 130, Math 150 and Math 155 but in addition will concentrate in engineering applications and laboratory experiences. Upon mastering of the adequate concepts, students will receive a certificate/letter from the Department of Engineering. Student will take this certificate/letter to the Math department in case it is needed to override the student information system. Students will get as many certificate/letters as they demonstrate competency on the different level and this will depend on the progress each student makes. Students will be eligible to repeat this course if they want to advance more levels. The grading will be credit/no credit. Prerequisite: MATH 100 (4, 4L)

120L INTRODUCTORY MATHEMATICS FOR ENGINEERING APPLICATIONS Students will learn the basic algebraic manipulations, trigonometry, 2-D vectors, complex numbers, 3-D vectors and matrices, sinusoids, basics of differentiation, basics of integration, and linear differential equations with constant coefficients from the point of view of engineering applications. Students will learn the fundamental and minimum of these topics in order to understand the engineering applications. Prerequisite: MATH 150. (4, 3T+1L)

160L GENERAL ENGINEERING DESIGN I Introduces engineering graphics, the design process, computer-aided design, engineering ethics, design economics, and project management. (Cross-listed with ME 160L] Prerequisite: ENGR 120L. (3, 2T+1L)

470 ENGINEERING MANAGEMENT I You will study engineering management and business principles for first-time engineering, science, or technology managers. You will cover time and budget management, employee and organizational management, team building and rewards, and project strategy. Prerequisite: ENG 111, with Senior standing recommended. (3, 3T+0L)

471 ENGINEERING MANAGEMENT II You will study advanced engineering management principles for mid-level and executive engineering managers, focusing on technology and science strategies at the organization or corporate level. Topics will also include technology transfer, valuation, and transactions. Prerequisite: ENGR 470. (3, 3T+0L)

472 ENGINEERING ENTREPRENEURSHIP You will study the principles of engineering/technology entrepreneurship, marketing, people management, and team building for technology-based start-ups, focusing on best practices in the formation of a company which is focused on product and service innovations. As a member of a team, you will train in business plan assembly, presentation, and defense. Prerequisite: ENG 111, with Senior standing recommended. (Spring) (3, 3T+0L)

473 FINANCING ENGINEERING COMPANIES You will study the evaluation, financing, and the investor oversight of technology or engineering start-ups; the investment principles applied to technological innovation, the interaction between entrepreneurial teams, investors, and private/public financing markets. Prerequisite: ENG 111, with Senior standing recommended. (Fall) (3, 3T+0L)

474 ENGINEERING PROJECT MANAGEMENT In this introduction to the methods underlying modern project management in the development of engineering software, hardware, or systems products, you will study team formation, status reporting, project management tools, and management of cross-disciplinary teams. Prerequisite: ENG 111, with Senior standing recommended. (Spring) (3, 3T+0L)
475  DEVELOPING ENGINEERING PRODUCTS  You will study the art and science of managing engineering product development from the requirements phase to the testing phase and customer delivery and support while reviewing rapid to market principles, along with product platform design processes.  Prerequisite:  ENG 111, with Senior standing recommended.  (Fall) (3, 3T+0L)

476  MARKETING ENGINEERING PRODUCTS  You will study marketing principles of science, technology, or engineering products and services, reviewing best practices in product research, competitive analysis, sales/marketing incentives, and the acquisition of technology products.  Prerequisite:  ENG 111, with Senior standing recommended.  (Spring) (3, 3T+0L)

477  TECHNOLOGY TRANSFER – EAST/WEST  You will study the historical, political, financial, and cultural aspects of technology transfer between countries in the western hemisphere and those in the eastern hemisphere, with particular emphasis on India and China in Asia and the United States.  Your review of bargaining strengths held by parties in the negotiation will be followed by a study of subsequent development of technology through financial transactions, joint ventures, and licensing agreements.  Prerequisite:  ENG 111, with Senior standing recommended.  (Fall) (3, 3T+0L)

478  ENGINEERING ETHICS  You will review the impact of engineering decisions in product design, testing and marketing in light of cases which depict appropriate and inappropriate ethical behavior in engineering organizations.  You will also review cultural, ethnic, and historical factors in the formation of ethical systems.  Prerequisite:  ENG 111, with Senior standing recommended.  (Spring) (3, 3T+0L)

479  ENGINEERING FACTORS IN CORPORATE STRATEGY  You will study the influence, contributions and interdependency of engineering innovation on financing and market needs as these relate to corporate strategy and advancement.  You will review the concepts of core competencies, engineering equity, and high performance in terms of corporate assets.  Prerequisite:  ENG 111, with Junior/Senior standing recommended.  (Spring) (3, 3T+0L)

480  ENGINEERING MANAGEMENT AND PROJECT MANAGEMENT  Student will learn Engineering management and business principles for first-time engineering, science or technology managers.  Topics covered include time and budget management, employee and organization management, team building and rewards, and project strategy.  Students will also be exposed to an introduction to the methods underlying modern project management in the development of engineering software, hardware or systems products.  Specific topics include team formation, status reporting, project management tools and management of cross-disciplinary teams.  Prerequisites:  Junior standing or permission of Engineering academic adviser.  (4, 4T+0L)

578  ENGINEERING ETHICS  You will review the impact of engineering decisions in product design, testing and marketing in light of cases which depict appropriate and inappropriate ethical behavior in engineering organizations.  You will also review cultural, ethnic, and historical factors in the formation of ethical systems.  (Spring) (3, 3T+0L)

ENGLISH (ENG)

106N  BASIC READING AND WRITING  Studies grammar, simple sentence structure, and reading improvement skills; develops abilities in critical thinking.  Prerequisite:  adequate score on Course Placement Evaluation; Co-requisites:  Personal Development courses per direction of advisor.  (4, 4T+0S)

108N  BASIC COMPOSITION I  This course focuses on basic writing skills necessary to create focused, well-organized and supported essays.  Students will engage in the writing
process to draft, revise, proofread and edit their essays so that their writing is coherent and clear. Students will practice the skills of critical reading and develop skills of critical thinking. They will also study the conventions of grammar, punctuation, and usage. Prerequisites: adequate score on Course Placement Evaluation. Co-requisite: RDG 108 N Reading Improvement. (4, 4T+0S)

109N ACCELERATED BASIC COMPOSITION II This course prepares students for college-level composition by engaging them in the writing process and focusing on the rhetorical skills necessary to write focused, clearly organized, well-supported, and grammatically correct essays. Students will critically read texts and incorporate ideas from sources to develop and support an arguable thesis. This will be accomplished by practicing the research skills of summarizing, paraphrasing, and quoting, using MLA format. This accelerated course has a Co-requisite of English 111 and is designed to support student’s successful completion of the objectives of English 111. Prerequisite: English 108N, or adequate score on Course Placement Evaluation. (4, 4T+0S)

109NL BASIC COMPOSITION II This course prepares students for college-level composition by engaging them in the writing process and focusing on the rhetorical skills necessary to write focused, clearly organized, well-supported, and grammatically correct essays. Students will critically read texts and incorporate ideas from sources to develop and support an arguable thesis. This will be accomplished by practicing the research skills of summarizing, paraphrasing, and quoting, using MLA format. Prerequisite: English 108N, or adequate score on Course Placement Evaluation. (4, 4T+0S)

110N PUNCTUATION AND GRAMMAR REVIEW This course focuses on the basic rules of punctuation, mechanics, and grammar to support students in their efforts to write clearly and correctly. Students will work towards becoming proficient at finding and correcting their own errors. (1, 1T+0S)

111 ENGLISH COMPOSITION I Involves instruction and practice in expository writing and critical reading; reviews grammar and stresses vocabulary development. Prerequisite: ENG 109N, or adequate score on Course Placement Evaluation. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area I Communications (NMCCN ENGL 1113)

112 ENGLISH COMPOSITION II Involves analytic writing, reading, and discussion of imaginative literature. Prerequisite: ENG 111. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area 1 Communications (NMCCN ENGL 1123)

114 INTRODUCTION TO MASS COMMUNICATIONS Covers the functions and organization of the mass media system in the United States; analyses the cultural, social, and political impact of mass media, especially TV, on US society. Prerequisite: ENG 111. (3, 3T+0S)

115 WRITING FOR THE MASS MEDIA I Introduces you to journalistic writing, including conventions of journalism, and the gathering and writing of news articles for print and broadcast media. Prerequisite: ENG 111. (3, 3T+0S)

116 TECHNICAL WRITING This course covers the preparation of written reports of a scientific and/or technical nature, with emphasis on formal and informal reports, instructions, abstracts, technical articles, scientific and technical terminology and vocabulary, formats, tables, graphs, charts, and audio-visual and oral presentation techniques. Prerequisite: ENG 111. (3, 3T+0S) (NNCCN ENGL 1123)

117 GRANT WRITING Provides you with an overview of the grant writing process, development of an idea, determining a need statement, evidence of need (statistics, etc.),
defining the objective of the grant, story boarding and designing a program. Includes information on where and how to locate grants. (1-3, 1-3T+0S)

221  CREATIVE WRITING  Involves the analysis and criticism of student-produced poetry or fiction (focus varies by semester). May be taken 2 times for credit. (3, 3T+0S)

230  WORLD LITERATURE I  You will explore global literature from the first epics through works of the early 17th century. You will focus on how narrative and myth represent the perspectives, achievements, and values of specific world societies through major genres of the period, including non-fiction, poetry, and drama. Prerequisite: ENG 111. (3, 3T+0S)

231  WORLD LITERATURE II  You will study masterpieces of fiction, non-fiction, poetry, and drama in order to develop a deeper appreciation of world literature from the 17th to the 21st centuries, and to strengthen your analytical skills. Prerequisite: ENG 111. (3, 3T+0S)

260  THE BIBLE AS LITERATURE  You will study and discuss the narratives and poetry found in the English Bible, with emphasis on the literary qualities of the readings. Prerequisites: ENG 111. (3, 3T+0S)

262  SOUTHWEST LITERATURE  You will learn to appreciate and analyze Southwest literature through reading, discussing, and writing. The literature chosen will be from a cross-section of cultures, genders, and genre (fiction, poetry, non-fiction). Prerequisite: ENG 112. (3, 3T+0S)

265  NATIVE AMERICAN LITERATURE I  Involves a survey of Native American writing from the time of the European invasion to the present with an emphasis on contemporary authors. Prerequisite: ENG 111. Cross-listed as PIS 265. (3, 3T+0S)

266  NATIVE AMERICAN LITERATURE II  Involves critical reading and discussions of writings by Native American writers of fiction (short stories and novels) and poetry. Prerequisite: ENG 111. Cross-listed as PIS 266. (3, 3T+0S)

270  CHILDREN’S LITERATURE  In order to develop an understanding of children’s literature from a multicultural perspective, you will explore stories and novels written for children from various cultures, with an emphasis on Native American and Hispanic cultures. Through class discussion and essays, you will develop literary analysis of these works, focusing on issues of cultural identity and conflict. To help you better grasp the role of children’s literature in our community, you will participate in a service-learning project that supports literacy and cultural awareness among local youth. Prerequisite: ENG 111. (3, 3T+0S)

280  READINGS IN LITERATURE  You will study selected regional or ethnic themes in literature. As the content varies, consult a current Schedule of Classes for each term’s specific content area. May be taken 2 times for credit. Prerequisite: ENG 111. (3, 3T+0S)

290  STUDY OF LITERATURE  Focused study of literary periods, types, traditions, themes, or individual authors; content varies from semester to semester; involves readings, lecture, discussion, and composition. As the content varies, consult a current Schedule of Classes for each term’s specific content area. May be taken 2 times for credit. Prerequisite: ENG 111. (3, 3T+0S)

292  WOMEN’S LITERATURE  You will study literature written by and focusing on women, including novels, short stories, poetry, drama, and theory. Prerequisite: ENG 111. (3, 3T+0S)

294  MYTHOLOGY  Provides a comparison and study of the mythologies of a variety of civilizations and their influences on literature. The course may focus on different mythologies depending on the semester. The areas of study may include Greek mythology, Roman mythology, Celtic mythology, and/or Native American mythology. May be repeated twice for credit if the topic varies. Prerequisite: ENG 111. (3, 3T+0S)
296 **FILM AS LITERATURE** You will develop your ability to critically view films through an examination of literary elements and film techniques. You will view films based on literature, reading works on which these films are based, which will allow a comparative analysis of the film’s interpretation of the literary source. You will also view films from a variety of cultures to gain insight on how these cultures are represented through the films. *Prerequisite: ENG 111. (3, 3T+0S)*

318 **ORAL TRADITIONS: FOLK STORIES** In order to develop an understanding of how oral traditions and folk stories shape the way people understand and interpret their experiences, you will explore folk stories from various cultures, with a special emphasis on Native American, Hispanic, and African American cultures. You will experience storytelling through guest speakers, class presentations, and films. Through class discussion and writing, you will develop critical responses and analysis of folktales, focusing on cultural patterns and perceptions. To help you better understand the role of folk stories in our community, you will participate in a service learning project that supports the preservation and celebration of folk stories and the oral tradition. *Prerequisite: ENG 112. Cross-listed as HUM 318. (3, 3T+0S)*

456 **SHAKESPEAREAN PLAYS** You will study a selection of Shakespearean dramatic forms as presented in histories, tragedies, and comedies. Through discussion and writing, you will engage in careful analysis of the text and interpretation of the characters, conflicts, and themes. Through this work, you will develop an appreciation for and understanding of Shakespeare’s plays: their literary value, their historical context, and their insight into the human condition. Additionally, you will analyze a film production of at least one play to examine the relationship between the text and the theatrical interpretation. You will develop and refine your own insights into Shakespearean drama through synthesizing literary criticism and theories of human behavior from other traditions and disciplines. *Prerequisite: ENG 112. (3, 3T+0S)*

468 **ECO-CRITICISM** You will explore the interpretive possibilities of eco-criticism as it applies to the understanding and writing of literature. You will address the question of how literary texts represent and explore the relations between nature and culture and the human and non-human, and how they may help us understand environmental crisis and the multifaceted threat posed today by the domination of homo sapiens over the earth. *Prerequisite: ENG 112. (3, 3T+0S)*

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**ENVIRONMENTAL SCIENCE (ES)**

100 **ENVIRONMENTAL SAFETY, HEALTH, AND RADIATION** Involves the successful completion of training modules offered by LANL: General Employee Training (8 hours); First Aid and CPR (8 hours); Electrical Safety Program for Non-Electrical Crafts (4 hours); Hazard Communication (4 hours); Batteries and Battery Banks (2 hours); Lockout Tagout (3 hours), and Radiological Worker (12 hours). *Prerequisite: Permission of instructor. (2, 2T+0S)*

103 **INTRO TO NATURAL RESOURCE MANAGEMENT** This course reviews elements of range management, forest management, wildlife management, watershed management, soils and related disciplines. This is an introductory-level course designed to expose students to key principles and concepts in natural resources management while emphasizing a science-based approach to solving complex problems. Topics will include an overview of basic relationships between animals and their habitat resources, the goods and services provided by natural resources, and various approaches to sustainably managing these resources. Students will participate in field trips to regional sites to improve their understanding of socio-political issues related to natural resource management. (3,3T+0L)
ENVIRONMENTAL SCIENCE

112 INTRODUCTION TO ENVIRONMENTAL SCIENCE I You will study environmental science through the structure and function of ecosystems and the various levels of living organisms. You will define and analyze ecological principles which determine the sustainability of ecosystems, including energy use, nutrient recycling, balance, natural resources, resilience, and biodiversity. Co-requisite: ES 112L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN 1114 with lab)

112L INTRODUCTION TO ENVIRONMENTAL SCIENCE I LAB In this field-work companion to ES 112, you will work as part of a team, concentrating on a detailed investigation and analysis of a specific environmental problem or case. Co-requisite: ES 112. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN ES 1114 with lecture)

120 FOREST AND RANGE ECOLOGY Identification of native southwestern range plants, ecosystems and their relation to associated ecosystems, soil types and moisture zones as they affect the range; studies grazing by both wild and domestic animals and its effect on plant communities, and man and his effect on the range. (3, 3T+0S)

121 ENVIRONMENTAL AIR MONITORING Explores fundamentals and techniques of monitoring the environment with an emphasis on the air pathway, including the nature of gases and the atmosphere, the oxygen and carbon cycles, Stokes law, the gas laws, Gaussian plume models, source pathways of pollutants, and the use of state-of-the-art equipment to measure pollutants and meteorological variables. Prerequisite: ES 112/L. (3, 3T+0S)

123 ENVIRONMENTAL HYDROLOGY AND ECOLOGY Explores fundamentals and techniques of monitoring the environment with an emphasis on the water pathway, including the periodic table, ions, bonds, pH, phase changes, fluid flow, Stokes law, hydrostatic pressure, eco-toxicology, the food chain, and the use of state-of-the-art equipment to measure pollutants in soils, and in surface and ground water. (3, 3T+0S)

126 MONITORING WATER QUALITY Students will participate in monitoring water quality to include site selection, measurement of physical characteristics such as temperature, turbidity, and chemical parameters such as alkalinity, dissolved oxygen levels, phosphate levels, and ammonia nitrogen levels to establish a water profile. (3, 3T+0L)

134 OSHA HEALTH AND SAFETY Overview of the accepted technologies to protect the health and safety of personnel handling hazardous waste. Meets OSHA 29 CFR 1910.120 requirements for Hazardous Waste Operations. Graded CR/NC. (3, 3T+0S)

137 OSHA FIRST RESPONDER Required for the Operations Level Responder as per 29 CFR 1910.120, this course includes the OSHA Awareness Level course requirements. The Operational Level may take defensive actions from a safe distance that will control the release and keep it from spreading. These actions are intended to protect nearby persons, property, and the environment from the effects of the release. First Responders at the Operational Level are not trained to enter the Hot zone. (1.5, 1.5T+0L)

201 ENVIRONMENTAL PHYSICAL AND CHEMICAL PROCESSES You will study basic general, analytical, organic, and polymer chemistry from an environmental perspective: the pollutants of air, water, and land; the rudiments of toxicology, and an introduction to green chemistry. You will learn about chemical processes in industry and nature, physical transport, risk, and aspects of human impacts and policy. Prerequisites: BIOL 201/L and CHEM 121/L; Co-requisite: ES 201L. (3, 3T+0L)

201L ENVIRONMENTAL PHYSICAL AND CHEMICAL PROCESSES LAB You will study the basic techniques for chemical analysis of environmental samples including air, water, and soil. You will also learn to use electronic data acquisition systems and further develop
your scientific writing skills. **Co-requisite:** ES 201. (1, 0T+1L)

**203 INTRODUCTION TO GIS/GPS AND CARTOGRAPHY** You will evaluate the characteristics, uses, and limitations of computer applications in natural resource management including application programs in statistical analysis, computer modeling, geographic information systems (GIS), global positioning systems (GPS), and database management systems (DBMS). Cross-listed as DRFT 110. **Prerequisite:** permission of instructor. (3, 2T+1S)

**211 INTRODUCTION TO SOIL SCIENCE AND MANAGEMENT** You will apply fundamental soil science principles in sustainable management of forested, agricultural and urban or constructed ecosystems. You will be introduced to concepts related to relationships between soil formation, soil classification, nutrient response and chemical, physical, and biological properties of soil. You will do soil sampling and interpretation. You will learn about the less impacting methods for remediation of soils and the reintroduction of nutrients and biota. **Co-requisite:** ES 211/L. (3, 3T+0L)

**211L INTRODUCTION TO SOIL SCIENCE AND MANAGEMENT LAB** You will be introduced to field analysis, interpretation, and characterization of soil profiles and how they are impacted by weather, drainage, agricultural, industrial, and man-made factors. You will sample soil and interpret the results. You will apply soil management principles in the field with an emphasis on integrating sustainable agricultural practices while maintaining environmental health and economic productivity using the principles of soil science. **Co-requisite:** ES 211. (1, 0T+1L)

**217 RANGELAND MANAGEMENT** You will study both the broad concepts of planning and the variety of planning approaches that are frequently used in rangeland planning on public and private land. You will also take an in-depth look at the management of grazing resources, including ecology, economics, burning, brush and weed control, grazing systems, and complementary grazing crops. You will address related topics, such as job satisfaction and leadership, communications, professionalism, ethics, and problem-solving. **Prerequisites:** ES 112/L, ES 120, and BIOL 203/L. (3, 3T+0L)

**220 FIELD DECONTAMINATION PROFICIENCY** Reinforces basic decontamination training for mixed groups of employees with limited training or experience performing decontamination techniques. Intended for groups such as new recruits, volunteer firefighters, and/or law enforcement personnel. Basic decontamination principles, techniques, and equipment are reviewed; participants have an opportunity to plan, perform, and observe the results of their decontamination techniques. (1-3, 1-3T+0L)

**225 PRINCIPLES OF AGRICULTURE ECOLOGY** You will be introduced to ecology in the analysis of agriculture and sustainable alternatives, with an emphasis on the fundamentals of agriculture: soils, seeds, and water, and the geographical and cultural context of farming systems. You will study topics in traditional agriculture, farm development and design, and sustainable farm practices. **Prerequisites:** ES 112/L and BIOL 203/L. (3, 3T+0L)

**236 ENVIRONMENTAL SAMPLING AND INSTRUMENTATION** You will study the fundamental standards of environmental monitoring, such as the application and use of site assessment, monitoring wells, permeability testing, soil vapor extraction and air sparging pilot installations. You will employ principles such as obtaining a representative sample; sample containment; design, installation site assessment, monitoring wells, permeability testing, soil vapor extraction and air sparging pilot installations. You will employ principles such as: obtaining a representative sample; sample containment; design, installation, testing and monitoring of wells; design, establish, and collect data from permeability testing, groundwater contour maps, soil vapor extraction, and air sampling systems, and pilot tests. **Prerequisites:** ES 112/L, ES 134, ES 201/L or CHEM 122/L, and MATH 145. (3, 3T+0L)
237 POLLUTION PREVENTION AND WASTE MINIMIZATION Covers pollution prevention and hazardous waste minimization, with emphasis on techniques and implementation strategies. (3, 3T+0S)

238 ENVIRONMENTAL LAW AND REGULATIONS You will study the basic laws and regulations for the management of solid and hazardous wastes, as well as those regulations impacting national forests and agriculture. Supplemental courses will follow in the concentration areas. Prerequisite: ES 112/L. (3, 3T+0L)

250 WATERSHED AND HYDROLOGY MANAGEMENT You will integrate concepts of physical hydrology, geomorphology, and water quality of watersheds with problem-based emphasis on managing natural resources and the effects of management activities on hydrologic and geomorphic processes. You will focus on the amount and timing of water yield, storm flow, water quality, and sedimentation through examination of water and sediment budgets, riparian systems, and hillslope/watershed hydrological processes. Prerequisites: ES 112/L, BIOL 203/L, and CHEM 121/L. (3, 3T+0L)

257 INTRODUCTION TO ECONOMICS OF FOOD AND AGRICULTURE IN INDUSTRIAL DEVELOPMENT This course introduces students to current topics in the economics of how people meet their food needs and on the role of agriculture in economic development. Additional topics will cover changing diets of people on a local and global scale. Prerequisites: ES 112/L. (3, 3T+0L)

260 ENVIRONMENTAL RADIOACTIVITY You will explore the fundamentals and techniques of monitoring the environment with an emphasis on radioactivity, including electrons, protons, neutrons, photons, ionization, fission, units, the Chart of the Nuclides, half-life, spectroscopy, and the use of hand-held detectors (TLDs, NEWNET, and AIRNET) to measure radionuclides in the environment. You will experience hands-on work with LANL staff and technicians. Prerequisites: MATH 102N or MATH 103N and ES 100. (3, 1T+2S)

265 INTRODUCTION TO PRINCIPLES OF SUSTAINABLE AGRICULTURE You will study food production resources (soils, crops, and climates) and approaches that conserve or renew those resources for a continuing benefit to society. You will participate in field trips which stress hands-on experience with soils and crops. Prerequisite: ES 225. (3, 3T+0S)

280 SUSTAINABLE BUILDING SYSTEMS This course will cover alternative building designs for housing and structures, understanding “green building” and natural building. Low energy building design principles applied to climatic zones will be covered as will material selection, house and room design, passive solar principles and application, human settlement design, and intentional communities. (3, 3T+0L)

299 PRACTICUM IN ENVIRONMENTAL SCIENCE Learning experiences while employed in the field of environmental management. Forty-eight work hours are required to earn one semester hour of credit. You may earn up to four credit hours and will be evaluated jointly by program faculty and by employers on a Credit/No Credit basis. Prerequisite: permission of advisor. (1-4, 0T+1-4L)

300 TECHNICAL COMMUNICATION IN THE STEM FIELDS Students will write and present for the technical areas of science, technology, engineering and math. Students will write abstracts, research proposals and findings, as well as prepare a poster presentation acceptable for professional submission. Prerequisite: ENG 112. (3, 3T+0L)

305 FUNDAMENTALS OF HAZARD RECOGNITION, RISK ASSESSMENT, AND CONTROLS Students will recognize and evaluate controls for chemical, physical (noise, radiation, thermal), biological, and ergonomic stressors in the work environment. Prerequisites: ES 112/L and CHEM 121/L (3, 3T+0L)
**ENVIRONMENTAL SCIENCE**

307 **ATMOSPHERIC SCIENCE** You will study how the climate system works, how climate has changed in the past, and how it is now being changed by human activity. You will develop the skills needed to analyze and critically evaluate public discussions of climate issues and written and oral communication skills in the context of climate and Earth system science. *Prerequisites*: ES 112/L, BIOL 203, CHEM 121/L, and MATH 162. (3, 3T+0L)

308 **INVASIVE SPECIES** You will evaluate the role and scope of introduced species as well as their impact; conduct an overview of the problem and discuss how modes of exotics spread both historically and currently, as well as discussing terminology and political impacts. You will evaluate the common characteristics of successful invasive species, epidemics and epizootics, and describe the role of invasive species and the disruption of the normal ecosystem function by exotics. *Prerequisites*: ES 112/L and BIOL 203/L (3, 3T+0L)

310 **MENSURATION AND BIOMETRICS** You will develop skills in mensuration, the practice of measuring, particularly lengths and angles, and Biometrics, the set of techniques for measurement and analysis of biological phenomenon. You will develop a deeper understanding of forest inventory techniques and various sampling designs used in forest inventory. *Prerequisites*: ES 103, FOR 113, and MATH 145 (3, 3T+0L)

311 **PLANT PATHOLOGY** You will study the historical foundation of plant pathology and will evaluate the current and future nature of plant disease and its causal agents (fungi, bacteria, viruses, nematodes, environmental/chemical agents) and of symbionts and their effect on plant health and disease resistance, epidemiological considerations on disease spreading and major outbreaks, and disease control and management techniques. *Prerequisites*: ES 112/L and BIOL 203. (3, 3T+0L)

316 **FIRE MANAGEMENT AND RESTORATION** You will study the concepts fire management, which involves predicting fire behavior and effects, as well as making decisions appropriate to natural resource management objectives. You will also study fire management options, which vary greatly, and may include fuels management and education, fire suppression, wildland fire use, and igniting and managing a prescribed fire, and post-fire rehabilitation. *Prerequisites*: ES 112/L, ES 203, and BIOL 203/L. (3, 3T+0L)

317 **RANGELAND MANAGEMENT** You will study both the broad concepts of planning and the variety of planning approaches that are frequently used in rangeland planning on public and private land. You will also take an in-depth look at the management of grazing resources, including ecology, economics, burning, brush and weed control, grazing systems, and complementary grazing crops. You will address related topics, such as job satisfaction and leadership, communications, professionalism, ethics, and problem-solving. *Prerequisites*: ES 112/L, ES 120, and BIOL 203/L. (3, 3T+0L)

318 **SILVICULTURE (WIC)** You will study the physical, biological, social, historical, and economic forces shaping past and present forest structure and composition in the various regions of the United States, and you will learn how silvicultural practices have been adapted to address specific management problems. You will also evaluate silvicultural alternatives for addressing present and anticipated future forest management-related problems and issues. *Prerequisites*: ES 103, FOR 113, and BIOL 203/L. (3, 3T+0L)

319 **PRINCIPLES OF WILDLIFE SCIENCE AND MANAGEMENT** This course will cover ecological principles of the management of various groups of wildlife, the history and development of wildlife management as a science, characteristics of, and factors affecting wildlife populations, techniques and theories of management, and wildlife conservation. *Prerequisites*: ES 103 and BIOL 203/L. (3, 3T+0L)

320 **ENVIRONMENTAL ETHICS** You will study values systems underlying human relations to the natural environment with emphasis on issues that arise when these values...
conflict, beginning with a discussion of our current environmental crises, different approaches to solving these crises, and issues of environmental justice and how science and knowledge affect decisions. (3, 3T+0L)

325  **PRINCIPLES OF PHYSICAL HYDROLOGY** In this course, you will be exposed to a qualitative introduction to the dynamics of watersheds and groundwater flow from an intuitive perspective, laying the foundations for understanding the physical mechanisms by which water is transported throughout a hydrologic system. **Prerequisites:** ES 250, MATH 162 (3, 3T+0L)

330  **PRINCIPLES OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH** You will study the basics of environmental and occupational hazard assessment, how policies and programs are designed to protect communities and workers from health risks posed by chemical, biological, and physical agents. **Prerequisites:** ES 112/L, BIOL 203/L, and CHEM 121/L. (3, 3T+0L)

333  **RADIATION BIOLOGY** Survey of radiobiology: effects of differing types of radiation on matter, different radiations and their properties; detailed modes of action of radiation on biochemical and biophysical systems with emphasis on the large macromolecules of living tissue; nature of radiation damage to long-chain nucleic acid molecules; potential problems from indiscriminate use of radiation therapy and diagnostic x-rays, and nuclear facility accidents; effects of low-level radiation exposure. Cross-listed as RAD 233. **Prerequisite:** permission of instructor. (Spring only) (3, 3T+0L)

336  **ENVIRONMENTAL SAMPLING AND INSTRUMENTATION** You will study the fundamental standards of environmental monitoring, such as the application and use of site assessment, monitoring wells, permeability testing, soil vapor extraction and air sparging pilot installations, and employ principles such as obtaining a representative sample; sample containment; design, installation site assessment, monitoring wells, permeability testing, soil vapor extraction and air sparging pilot installations. You will employ principles such as: obtaining a representative sample; sample containment; design, installation, testing and monitoring of wells; design, establish, and collect data from permeability testing, groundwater contour maps, soil vapor extraction, and air sampling systems, and pilot tests. **Prerequisites:** ES 112/L, ES 134, ES 201/L or CHEM 122/L, MATH 145, and BIOL 203/L. (3, 3T+0L)

336L  **ENVIRONMENTAL SAMPLING AND INSTRUMENTATION LAB** In a hands-on setting students will participate in the fundamentals of environmental sampling and instrumentation to include data collection and evaluation. **Prerequisites:** ES 112/L, ES 134, ES 201 or CHEM 122/L; **Co-requisite:** ES 336. (1, 0T+1L)

338  **ENVIRONMENTAL LAW AND REGULATIONS** You will study the basic laws and regulations for the management of solid and hazardous wastes, as well as those regulations impacting national forests and agriculture. Supplemental courses will follow in the concentration areas. **Prerequisites:** ES 112/L. (3, 3T+0L)

340  **PRINCIPLES OF CROP PRODUCTION** You will focus on the ecological principles underlying crop production systems, evaluating cropping systems, tillage methods, planting and harvesting methods, and crop growth patterns. You will examine crop production in the context of management approaches, environmental resources and constraints, and socioeconomic considerations. **Prerequisites:** ES 225. (3, 3T+0L)

365  **PRINCIPLES OF SUSTAINABLE AGRICULTURE** You will study food production resources (soils, crops, and climates), with emphasis on the scientific principles of management that conserve or renew those resources for a continuing benefit to society. You will participate in field trips which stress hands-on experience with soils, crops, and descriptive climatology. **Prerequisites:** ES 225 and BIOL 203/L. (3, 3T+0S)
ENVIRONMENTAL SCIENCE

399 FIELD PROBLEM Topic developed between student and advisor. Var. 1-6, (1-6T)

3XX UNDERGRADUATE RESEARCH EXPERIENCE This is a practical faculty-directed research experience for upper-division Environmental Science majors. During the regular semester you will perform 8-10 hours per week of work alongside your mentor in a project with a time frame agreed to by both, the student intern, and the mentor. Arrangements involve all aspects of environmental research that can include fieldwork, bench laboratory work, library research, or any combination of these activities. The mentor will actively engage you in sharing the responsibility for the research process. Fall & Spring (3, 3T, 0L)

400 ENVIRONMENTAL MANAGEMENT You will integrate the principles of regulatory, social, and ecological concern in order to critically discuss and evaluate existing and proposed environmental management systems. By the end of this course, you will be able to design environmental management strategies which reduce environmental impacts, optimize resource use, promote waste reduction and recycling, prevent pollution, and involve public stakeholders, leading to superior environmental and bottom-line performance. Prerequisites: ES 112/L and BIOL 203/L. (3, 3T+0L)

401 COMMUNITY PARTICIPATION IN ENVIRONMENTAL PLANNING You will study the ethical and regulatory implications for community involvement, participating in at least one community-related environmental initiative. You will evaluate methods for integrating community values and perspectives in overall decision making. Prerequisites: ES 112/L, ES 320, BIOL 203/L, and SPCH 130. (3, 3T+0L)

404 FOREST HEALTH, RESTORATION, AND MANAGEMENT You will study the basic roles of natural disturbance agents, such as diseases, insects, fire, exotic organisms and their interactions in natural forest ecosystems. You will study how restoring and maintaining the health of forests has become an internationally recognized goal for resource management agencies, public conservation organizations, and society in general. Prerequisites: ES 103 and ES 318. (3, 3T+0L)

410 SOIL TESTING AND INTERPRETATION you will become acquainted with soil composition and classification; relationship of soil to plant growth and animal health; use of fertilizers, erosion and control. You will study the four general components of soil testing: a) soil sampling and handling, b) analytical methodology involved in nutrient extraction from the soil by various tests, c) interpretation of the analytical results, and d) recommendations for the correction of soil nutritional problems, including acidity, deficiencies, imbalances, and excess levels. Prerequisites: ES 112/L, ES 201/L, BIOL 203/L, ES 211 and ES 211/L; Co-requisite: ES 410L. (3, 3T+0L)

410L SOIL TESTING AND INTERPRETATION LAB Soil morphology and development. Field analysis and characterization of soil profiles, impact of weather, drainage, agricultural, industrial, and man-made factors on edaphic characterization. Co-requisite: ES 410. (1, 0T+1L)

411 SOIL MANAGEMENT AND FERTILITY You will apply fundamental, unifying soil science principles in sustainable management of forested, agricultural and urban or constructed ecosystems, evaluating the relationships between nutrient response and chemical, physical, and biological properties of soil, and proposing the least impacting methods for remediation of contaminated soils and the reintroduction of nutrients and biota. Prerequisite: ES 410/L. (3, 3T+0L)

412 ENVIRONMENTAL HEALTH AND TOXICOLOGY You will study the relationship between human health and environmental toxicants from an interdisciplinary perspective. You will become familiar with a broad range of concepts, including the nature of hazards, epidemiological study design, exposure assessment, toxicology microbiology, risk assessment, risk perception, and risk management. You will learn to draw the links among human
health and sustainability, urbanization, energy production, and relevant ethical issues. 

**Prerequisites:** ES 112/L, ES 201/L or CHEM 122/L, BIOL 203/L, and BIOL 210/L. (3, 3T+0L)

**414 WILDLAND FIRE MANAGEMENT** In this course, you will focus on fire in restoration ecology and the effects of fire on plants, animals, soils, water, and air, with an emphasis directed toward fire as an ecological process in wildland ecosystems. You will study how to characterize and predict fire effects over time and space, as well as how to apply this to restoration ecology. 

**Prerequisites:** ES 318. (3, 3T+0L)

**415 ENERGY AND RESOURCE DEVELOPMENT (WIC)** You will study a wide variety of topics in energy and resource conservation and development, from a global scale to those of industry, buildings, and products, with emphasis on the evaluation of systems with particular attention given to dynamic and efficient systems and input/output models. Topics you will study include experimental and theoretical research in energy technology; development, application, and evaluation of methods and tools for the analysis of technical systems, with respect to the environment, sustainable development, and energy. (3, 3T+0L)

**416 IRRIGATION AND DRAINAGE** You will participate in the design, management, and evaluation of irrigation and drainage systems, addressing the concepts and processes of system design, soil-water-plant relationships, evapo-transpiration and water requirements, effective water use, irrigation scheduling, infiltration, and irrigation systems planning. 

**Prerequisites:** ES 112/L and MATH 162. (3, 3T+0L)

**420 ECOLOGY AND HYDROLOGY OF SOUTHWESTERN RIVER SYSTEMS** Students will experience the unique geology, ecology, and dynamic hydrology of the southwestern U.S. along the diverse ecosystems of New Mexico and Arizona. The curriculum includes three days of classroom lecture followed by multi-day field trips to ecologically diverse regions representative of the Chihuahuan and Sonoran deserts, southwestern forests and grasslands. The field trip will include a diverse set of hikes, lectures, and project investigation multiple aspects associated with the evolution of Southwest river and riparian systems including the geological, ecological, natural resources, the social and political ward issue and management practices. The ecology of “sky islands”, Deserts, forests and range of Southwest Arizona includes trips to the Arizona Sonoran Desert Museum and Chiricahua National Park. (Spring only) The banks of the major river systems in New Mexico will be examined through a multi-day whitewater field trip on the Rio Chama and or the upper Rio Grande (Summer only). 

**Prerequisite:** Permission of Instructor. (2, 2T+0L).

**457 ECONOMICS OF FOOD AND AGRICULTURE IN INDUSTRIAL DEVELOPMENT** You will survey recent research in the economics of how people meet their food needs and on the role of agriculture in economic development, addressing the transitioning diets of traditional populations of the southwest region, and through observance of diet trends on a national and international basis. 

**Prerequisites:** ES 112/L, ES 201/L, and BIOL 203/L. (3, 3T+0L)

**480 SENIOR CAPSTONE** This will be the culminating experience for you, as an environmental science student. You will work with an academic advisor who will serve as your mentor in overseeing your final student internship with a government agency, environmental organization, or private company. In your fieldwork, you will search for solutions to real problems while working with professionals, acquiring important experience, and making connections with potential employers. You must identify a capstone field mentor who will provide on-site student support and who will periodically and ultimately evaluate your performance. (3, 0T+3L)

**499 PROBLEM** Topic developed between student and advisor (Var. 1-6 (1-6T).}
ENVIRONMENTAL AND FOOD SCIENCE PROFESSIONAL

Certification Test Preparation (ES)

Note: These courses are test-preparation courses; their completion does not guarantee a passing score on an associated CHMM, CHMP, NEHA, or NRA exam.

351 ENVIRONMENTAL SANITARIAN This is a preparation course for the Registered Environmental Health Sanitation/Registered Sanitarian (REHS/RS) for the National Environmental Health Association (NEHA) Exam. (1, 1T+0S)

352 PROFESSIONAL FOOD SAFETY This is a preparation course for the Certified Food Safety Professional (CFSP) for the National Environmental Health Association (NEHA) Exam. (1, 1T+0S)

353 INTRODUCTION TO APPLIED ENVIRONMENTAL HEALTH This is a preparation course for the Certified Environmental Health Technician (CEHT) for the National Environmental Health Association (NEHA) Exam. (1, 1T+0S)

354 HAZARDOUS SUBSTANCES I This is a preparation course for the Registered Hazardous Substances Specialist (RHSS) for the National Environmental Health Association (NEHA). (1, 1T+0S)

355 HAZARDOUS SUBSTANCES II This is a preparation course for the Registered Hazardous Substances Professional (RHSP) for the National Environmental Health Association (NEHA). (1, 1T+0S)

356 ENVIRONMENTAL TECHNICIAN This is a preparation course for the Registered Environmental Technician (RET) for the National Environmental Health Association (NEHA). (1, 1T+0S)

357 ONSITE WASTEWATER TREATMENT SYSTEMS This is a preparation course for the Certified Installer of Onsite Wastewater Treatment Systems (CIOWTS) for the National Environmental Health Association (NEHA). (1, 1T+0S)

358 RADON MEASUREMENT This practical 16-hour course is designed to prepare radon measurement personnel to perform radon measurements, communicate radon behavior and risk to clientele, and to respond to technical questions as preparation for the associated NEHA Exam. (1, 1T+0L)

359 SAFE FOOD HANDLING Through the use of the National Restaurant Association Education Foundation (NRAEF) ServSafe® Coursework, you will be provided with up-to-date, comprehensive food safety training preparatory to certification. (1, 1T+0S)

460 IHMM NATIONAL OVERVIEW COURSE® This is a preparation course for the CHMM exam. Additionally, those who have already earned the CHMM® designation can take the NOC to obtain annual Credential Maintenance Points (CMPs). The NOC is designed as a broad introduction to the industry and provides instruction about laws and regulations, as well as about technologies and practices. It highlights topics and information which hazardous materials managers need to know to better perform their jobs. (1, 1T+0S)

FIBER ARTS (FA)

100 INTRODUCTION TO WEAVING An introduction to design work using basic shuttle techniques; an introduction to warping the loom and understanding how the loom works. You will be required to complete a minimum of one weaving. (Var. 1-3,) (1, .5T+.5S) or (2, 1T+1S) or (3, 1T+2S)
FILM AND DIGITAL MEDIA ARTS (FDMA)

101  INTRODUCTION TO DIGITAL VIDEO PRODUCTION  Introduction to digital video production as it relates to digital media and documentary story telling. Emphasis will be on the fundamentals of videography with a broad exploration of basic camera skills and non-linear editing techniques. One short film will be the final assignment. (4, 3T+1S)

102  INTRODUCTION TO DIGITAL AUDIO DOCUMENTARY  An introduction to basic digital studio and field production techniques and the procedures necessary for gathering aural history for the production of documentary radio/web broadcast. You will learn how to select and edit excerpts from your interviews to produce radio vignettes. You will study Pro Tools, basic audio field recording with digital technology, the practice of aural history, and the art of sound collage. (4, 3T+1S)

107  DIGITAL MEDIA LITERACY  You will create a personal web page which will serve as the foundation for exploring communication and web publication/syndication in the modern world. (4, 3T+1S)

110  NON-LINEAR EDITING: LIGHTWORKS®  Introduction to basic editing techniques using the popular professional editing software Lightworks®. You will learn the fundamentals of non-linear editing used in all film and video productions. You will practice picture editing, sound editing, and music editing. You will discuss and demonstrate solutions to real-world problems encountered in editing rooms around the world—such as poor photography and poor direction. (4, 3T+1S)

111  DIGITAL MEDIA PRODUCTION I  This class will serve as a foundational hands-on course for intermediate and advanced courses in the FDMA program and introduce roles and positions through participation in student production projects. (4, 2T+2S)

115  INTRODUCTION TO DOCUMENTARY FILM MAKING  You will learn how to make a short documentary film on an assigned subject drawn from topical events in northern New Mexico. The process will typify film-for-hire conditions and will be an exercise in filmmaker/client relations. The teacher and staff will play the role of client. Examples could be profiling a local artist, a new business enterprise, or exploring a local historical event. (4, 3T+1S)

120  DIGITAL AUDIO PRODUCTION  You will explore the tools and techniques of digitized sound production by focusing on a series of individual and collaborative projects. Cross-listed as MUS 123. (4, 3T+1S)

125  DIGITAL MUSIC PRODUCTION TECHNIQUES  You will build on skills learned in Digital Audio Production and progress from the technical to the procedural and aesthetic aspects of recording. Prerequisite: FDMA 120 or MUS 123. Cross-listed as MUS 134. (4, 3T+1S)

130  TV PRODUCTION I  An introduction to the basic principles, procedures and techniques used in television production. This course requires participation during campus events for video control, special effects, camera operation, editing, composition, lighting, staging, directing, on-camera announcing and interviewing. (4, 3T+1S)

140  DIGITAL IMAGING I: ADOBE PHOTOSHOP  In this course you will become familiar with Adobe Photoshop®, digital camera, scanner and printer. (4, 3T+1S)

155  DIGITAL ANIMATION I: MOTION GRAPHICS  This course introduces students to both animation and motion graphics. Students will gain working knowledge of the twelve principles of animation, using both physical and strictly digital techniques. Students will become proficient with Adobe After-Effects® software. An ability to draw is NOT a requirement to succeed in this course (4, 3T+1S)
WEB DESIGN I  Introduces you to the production of web page design and publication on the Internet. Prerequisite: FDMA 140 (4, 3T+1S)

ADVANCED DIGITAL VIDEO PRODUCTION  You will study advanced camera functions from a technical standpoint including maintaining optimum picture quality while filming, achieving higher caliber sound fidelity, and multi-camera shooting procedures. Prerequisite: FDMA 101. (4, 3T+1S)

DIGITAL MEDIA PRODUCTION II  This class will serve as an advanced hands-on production centered course for FDMA Majors nearing graduation. Students will be required to function in leadership roles on Student developed production projects. Prerequisite: FDMA 111. (4, 2T+2S)

TV PRODUCTION II  A continuation of FDMA 130 to allow students to improve their skills in television production. This course requires participation during on campus event to learn more advanced techniques for video control, special effects, camera operation, editing, composition, lighting, staging, directing, on-camera announcing and interviewing. (4, 3T+1S)

DIGITAL IMAGING II: ADOBE INDESIGN®  In Digital Imaging II, students will build upon their knowledge of Adobe Photoshop®, as well as gain a working knowledge of Adobe InDesign® to produce various professional products, common to the graphic design industry. Prerequisite: FDMA 140 (4, 3T+1S)

DIGITAL ANIMATION II  You will cover the development and execution of an animation clip that will be edited into a class project. Prerequisite: FDMA 155. (4, 3T+1S)

WEB DESIGN II  You will study advanced production of web page design and publication on the Internet. Prerequisite: FDMA 175. (4, 3T+1S)

HISTORY OF CINEMA  You will study the historical perspective of cinema from the genesis of the moving image to modern digital filmmaking. Prerequisite: ENG 109N. (3, 3T+0S)

MULTIMEDIA  Introduces you to multimedia, utilizing electronic imaging, animation, digital editing and digital audio production skills. Prerequisites: FDMA 140 and FDMA 155. (4, 3T+1S)

DIGITAL MEDIA PORTFOLIO  You will create your own digital portfolio with a strong emphasis on editing, content, and presentation. You will engage in discussions on how to market your work to enter advanced degree programs or the work force. Prerequisite: FDMA 201, or permission of instructor. (2,1T+1S)

DIGITAL MEDIA PRODUCTION – INTERNSHIP  For this capstone course in the FDMA program, you will take on 100% of the duties necessary to produce professional quality film/television content. You will work with professional union and non-union mentors on professional NM Film projects throughout the state. Prerequisite: FDMA 111 & 211 (Summer) (6, 0T+6S)

FILM TECHNICIAN TRAINING (FTT)

FTT 103 and FTT 104 are offered only as summer intensives.

FILM CREW I  You will study set etiquette, jargon and terminology, film history, basic equipment handing in all the craft areas, and OSHA training. In addition to classroom instructions, job shadowing, and hands-on applications, you will be spending a significant time investment outside of class. (Summer) (9, 6T+3S)

FILM CREW II  As you continue your training, you will begin to specialize in the film/
studio crafts based on demonstrated skills and interest. You will work on group projects within the class and on outside film projects, with processional mentors as available. You will also mentor high school students. You will be spending a significant time investment outside of class. *Prerequisite:* FTT 103. (Summer) (9, 6T+3S)

**105 FILM CREW III—INTERNSHIP** In the final course in this program, you will take on 100% of the duties necessary to produce professional quality film/television content. You will work with union mentors on professional NM Film Office FTTP projects throughout the state. *Prerequisite:* FFT 104. (Fall) (6, 0T+6S)

**FIRST YEAR EXPERIENCE (FYE)**

**101 First Year Experience** This course is designed with a combination of other opportunities on campus to make the first year at Northern New Mexico College a satisfying and successful one. FYE courses will effectively assist our diverse student population with transitioning into the college environment. FYE courses aim to encourage an appreciation of the goals, methods and values of higher education. The courses work to establish a familiarity with campus resources and student services, develops skills necessary for academic success, foster leadership and teamwork skills, and encourages students to become independent learners. *Prerequisite:* ENG 108. (Fall, Spring). (3, 3T+0S)

**FORESTRY (FOR)**

**101 INTRODUCTION TO FORESTRY** You will study forest resources and their management, including a history of forestry in America, an introduction to forest growth and development, the multi-use concept of forest management control of damaging agents, measurement, and wildlife. Cross-listed as ES 101. (3, 3T+0S)

**113 DENDROLOGY** You will focus on the identification of forest tree and shrub species, with emphasis on identification of trees by cone, bark, needle, and wood. Teaches use of keys with emphasis on species found in the southern Rocky Mountain region. Involves some field work. (3, 3T+0S)

**123 FOREST ECOLOGY** You will study forest ecosystems, assemblages of trees and their communities and the environments in which they live; introduction to silvics and the study of silviculture. (3, 3T+0S)

**GEOGRAPHY (GEOG)**

**111 WORLD GEOGRAPHY** Geography of major land forms, environments, ethnic cultures, population and resources of the world, and inter-relationships among them. (3, 3T+0S)

**GEOLOGY (GEOL)**

**101 PHYSICAL GEOLOGY** Materials composing the earth and the work of agencies modifying its surface. *Co-requisite:* GEOL 101L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN GEOL 1114, with lab)

**101L PHYSICAL GEOLOGY LAB** Chemical and physical characteristics of rocks, gems, and minerals. Includes field trips to discuss local area geomorphologic, stratigraphic, and sedimentation sites and geologic process involved in their creation. *Co-requisite:* GEOL 101. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN GEOL 1114 with lecture)

**102 HISTORICAL GEOLOGY** History and evolution of the earth; rise and succession of various forms of life. *Prerequisite:* GEOL 101; *Co-requisite:* GEOL 102L. (3, 3T+0L) Meets
HEALTH, PHYSICAL EDUCATION, AND RECREATION

New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN GEOL 1214 with lab)

102L HISTORICAL GEOLOGY LAB Detailed Study of sedimentary rocks and fossils. Interpretation of geologic maps and cross-sections. Field trips to areas of sedimentary geology. Co-requisite: GEOL 102. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN GEOL 1214 with lecture)

HEALTH, PHYSICAL EDUCATION, AND RECREATION (HPER)

All HPER courses are graded Credit/No Credit (CR/NC).

101 CONDITIONING Exercises Various exercises designed to promote endurance, strength, flexibility, and general physical fitness. (1, 0T+1S)

102 AEROBICS I Exercise and movements for general physical fitness. (1, 0T+1S)

103 TENNIS Instruction and participation in the basic skills, rules, and equipment of the game of tennis. Both singles and doubles games will be taught. (1, 0T+1S)

104 STEP AEROBICS I Exercise and movements for developing strength, endurance, and flexibility, with a combination of general physical fitness. (1, 0T+1S)

105 BASKETBALL Instruction and participation in the game of basketball, including rules, skills, shots, and strategies. (1, 0T+1S)

106 GOLF Focuses on the development of knowledge and skill competencies necessary to play golf; emphasis is placed on skill progressions, practice opportunities, and error diagnosis and correction. (1, 0T+1S)

107 WALKING/RUNNING FOR FITNESS Designed for all levels, including walkers, joggers, race walkers, and competitive marathon runners. (1, 0T+1S)

108 SWIMMING A course for those who can swim, not for those who want to learn the basics. It involves supervises lap swimming, including some instruction in swimming for fitness. (1, 0T+1S)

109 WATER AEROBICS Exercises and movements in waist-high water, and usually performed to music, to promote general fitness and health. This course is self-paced and non-competitive, and the ability to swim is not required but preferred. (1, 0T+1S)

110 WEIGHT TRAINING Skill training for developing strength and endurance with free weights and machines, emphasizing knowledge of equipment, lifting safety, and theories of training. (1, 0T+1S)

111 RACQUETBALL I Through actual play, you will learn the basic skills, rules, and strategies of racquetball. (1, 0T+1S)

112 BEGINNING VOLLEYBALL Teaches you the basic skills and rules of volleyball, emphasizing learning basic bump, set, and spike which are the fundamentals of volleyball skills. (1, 0T+1S)

113 SOFTBALL Instructs you in the basic skills, strategies, and rules of softball. (1, 0T+1S)

114 AIKIDO I Basic philosophy, history, and movements of this martial art. (1, 0T+1S)

115 INTRODUCTION TO KUNDALINI YOGA Introduces you to Kundalini Yoga techniques and postures, emphasizing meditation and breathing. (1, 0T+1S)

116 COUNTRY WESTERN DANCE Introduces you to Country and Western two-step and line dance. (1, 0T+1S)

117 HATHA YOGA An integrative approach to Hatha Yoga, exploring philosophy, physical and energetic systems, asanas, pranayama, and yoga therapy. (1, 0T+1S)
HEALTH, PHYSICAL EDUCATION, AND RECREATION

120   DOWNHILL SKIING  Designed for all levels of downhill skiing. (1, 0T+1S)

121   CROSS-COUNTRY SKIING  For all levels of cross-country skiing. (1, 0T+1S)

122   BOWLING  Introduction to and practice in the basic skills of bowling. (1, 0T+1S)

123   DANCE AEROBICS  Dance movement for general physical fitness. (1, 0T+1S)

124   KICKBOXING AEROBICS  An intense aerobic workout using the moves of kickboxing to achieve better coordination and balance. (1, 0T+1S)

125   POWER CONDITIONING I  A conditioning course emphasizing aerobics, weight training and cardiovascular conditioning. (1, 0T+1S)

126   ART OF KARATE  Based on standards of the Japan Karate Association and the International Shotokan Karate Federation, through this course you will develop self-discipline, self-control, self-esteem, and self-defense. This course includes all aspects of Karate training, including calisthenics, training in basic Karate techniques, basic sparring drills, and Kata, including self-defense techniques. It will be an excellent cardio-vascular exercise class as well as muscle toner and conditioner. (1, 0T+1S)

127   TAI CHI CHUAN I  Includes an introduction to the basic principles and background of Tai Chi, practice of Qigong exercises, and study of the Yang style long form. (1, 0T+1S)

128   TAI CHI CHUAN II  Continuation of the study of the Yang style long form began in HPER 127; further develops an understanding and practice of the basic principles of Tai Chi and Qigong. (1, 0T+1S)

129   PILATES  You will learn the basic concepts and skills in the Pilates method of non-impact mat conditioning designed to increase core strength and stabilization, muscle tone, balance, coordination, and flexibility which develop whole body awareness and control, and which can be modified to various fitness levels. (1, 0T+1S)

130   INTERMEDIATE SWIMMING  Designed for individuals with a swimming background, this course begins with review of beginning techniques and continues on to five swimming strokes, with an introduction to the butterfly. Emphasis is on building endurance in preparation for Lifeguard Training course. May be repeated twice for credit. Prerequisite: Must have swimming background and familiarity with basic swimming strokes. (1, 0T+1S)

131   WEIGHT LOSS YOGA  You will learn intermediate Kundalini Yoga in support of weight loss, through its imparting a deeper experience of yogic technology in working on helping you achieve self-control and self-fulfillment. (1, 0T+1S)

132   LIFE-GUARDING TODAY  You will learn to recognize hazardous situations and prevent injury, with an emphasis is on supervising swimmers, minimizing dangers, preparation of facility records and reports. You will learn rescue skills with a concentration on preventive life-guarding. When you successfully complete this course, you will acquire certification in Life-guarding Training, which includes Professional CPR. Prerequisite: You must know all strokes (free style, breaststroke, sidestroke, and back-crawl) and be able to swim 500 yards of each stroke. (2, .5T+1.5S)

133   STRESS RELIEF YOGA  You will learn intermediate Kundalini Yoga in support of stress relief, through its imparting a deeper experience of yogic technology and the principles for managing stress and renewing vitality on a constant basis. (1, 0T+1S)

134   WOMEN'S SELF DEFENSE  You will learn to use your strength against a perpetrator's weaknesses to end physical threat by using your mind and body as defensive measures against an attacker. (1, 0T+1S)
135 **LEADERSHIP SKILLS IN MOVEMENT EDUCATION FOR ELEMENTARY SCHOOL STUDENTS** With a group setting, you will plan and participate in physical movement activities with elementary school students in their local schools, thus integrating leadership skills, physical and movement education, and service learning. (1, 0T+1S)

202 **AEROBICS II** Continuation of Aerobics I, with emphasis on greater endurance. Prerequisite: HPER 102. (1, 0T+1S)

204 **STEP AEROBICS II** You will learn exercise and movements for developing strength, endurance, and flexibility, with a combination of general physical fitness. Prerequisite: HPER 104. (1, 0T+1S)

213 **RACQUETBALL II** In this continuation of HPER 113, you will put more emphasis on more advanced skills and strategies. Prerequisite: HPER 113. (1, 0T+1S)

216 **AIKIDO II** Continuation of Aikido I, with emphasis on greater skills. Prerequisite: HPER 116 or permission of instructor. (2, 0T+2S)

223 **INTERMEDIATE VOLLEYBALL** Volleyball competition and play. Focus will be on using skills to learn and develop strategies for competitive play. (1, 0T+1S)

225 **POWER CONDITIONING II** This is an advanced cardiovascular conditioning course, utilizing weight training, aerobics, and exercise equipment. Prerequisite: HPER 125. (1, 0T+1S)

237 **YOGA FOR ADDICTION** This course is an introduction to yogic addiction recovery technology and the Science of Humanology, helping to resolve dependent behavior, including alcohol and drugs, smoking, and gambling. The approach combines the thousands of years of yogic approach with the modern innovations of the West. (2, 1T+1S)

250 **TECHNIQUES OF COACHING BASKETBALL** You will develop the knowledge and skill competencies you need for coaching, with an emphasis on skill progressions, practice opportunities, and error diagnosis and correction. Prerequisite: basic basketball skills. This course does not satisfy HPER requirements for graduation. (2, 1T+1S)

**HEALTH SCIENCE (HSCI)**

102 **AMERICAN HEART ASSOCIATION CPR** The gross anatomy and physiology of the heart, electrical pathway, and respiratory system are discussed in preparation for CPR. Includes primary assessment and evaluation of ABCs. Successful completion of this course will result in American Heart Association CPR certification. Graded on a Credit/No Credit basis. (0.5, 0.5T+0L)

109 **AMERICAN RED CROSS CPR/FIRST AID** Covers basic emergency/first aid procedures which include shock, bleeding, poisoning, burns, musculoskeletal injuries and other medical emergencies. Includes proper basic life-saving techniques used in aiding victims of heart attack, suffocation, drowning, electrocution, and airway obstruction. Successful completion of this course will result in CPR and First Aid certification according to the American Red Cross Standards. Graded on a Credit/No Credit basis. (0.5, 0.5T+0S)

158L **FIRST RESPONDER** Trains you to perform a basic primary assessment and maintain the individual until help arrives. Appropriate for law enforcement officers, members of fire or rescue services, or company employers. Prerequisite: Current American Heart Association BLS CPR certification or HSCI 102. (2, 1T+1L)

159L **EMT-BRIDGE** Designed for certified First Responders who wish to advance to the level of EMT-B. The Bridge course builds on the training of the First Responder and provides an intensive version of the EMT-B curriculum condensed into 80 hours. To be eligible you...
must have completed the First Responder training within the past 2 years, although exceptions will be considered on a case-by-case basis. Upon successful completion of the course, you will be eligible to take the state licensing exam for EMT-B. You must be at least 18 years old to register for the state licensing exam. (5, 4T+1S)

160L  **EMERGENCY MEDICAL TECHNICIAN—BASIC (EMT-B)** This course is designed for individuals who have an interest in working in the pre-hospital setting. It trains ambulance and rescue personnel to recognize and stabilize patients with life-threatening emergencies at the scene and to transport using specialized items of equipment. When you complete this course you will be eligible to take the state licensing exam which is required to become an EMT in New Mexico. **Co-requisite:** HSCI 160L; **Prerequisite:** HSCI 102, or current American Heart Association CPR certification. You must be at least 18 years of age to register for the state board exam; however, high school students are eligible for concurrent enrollment with permission from the department. In general, those 17 years of age may take the course and apply for licensure; however, such applicants must meet special criteria (check with Northern’s Health Science department). In order to register to take the state board exam to become a licensed EMT-B, you must earn 80% or better in this course. **Co-requisite:** HSCI 102 or current American Heart Association CPR certification. (8, 6T+2L)

161  **EMERGENCY MEDICAL TECHNICIAN—COMBO REFRESHER** Provides you with an update in new protocols, skills, and medical information first responders, EMT-B’s & EMT-I’s. Required every two years to maintain state or national certification. **Prerequisite:** Certification as First Responder. (1.5, 1.5T+0L)

163  **EMT–INTERMEDIATE** This course, in combination with EMT-Intermediate Lab and Practicum, consists of 200 hours of instruction (lecture, lab, and practicum), covering the EMT-B review and intermediate curriculum, which consists of assessment of trauma and medical patients, airway management, shock, respiratory emergencies, fluids and electrolytes, adult and pediatric IV therapy, intraosseous therapy, inhalation therapy, obstetrical emergencies, pediatric emergencies, IV and subcutaneous medication administration, cardiovascular emergencies, toxicological emergencies, diabetes management, and medico-legal issues. You must earn 80% or better in HSCI 163, receive “credit” for both HSCI 163L and 164L to be eligible to register to take the state board exam to become an EMT-Intermediate. **Prerequisites:** EMT-Basic licensure with current CPR card. **Co-requisites:** HSCI 163 and 164L. (4, 4T+0L)

163L  **EMT–INTERMEDIATE LAB** You will learn under direct supervision. to initiate IV therapy, inhalation therapy, IV administration, and subcutaneous injections on fellow students. You will also learn, in a supervised environment, medical assessment, trauma assessment, and medication administration. You must successfully complete HSCI 163, 163L, and 164L to be eligible to register to take the state board exam to become an EMT-Intermediate. **Prerequisites:** EMT-Basic licensure with current CPR card. **Co-requisite:** HSCI 163 and 164L. (2, 0T+2L)

164L  **EMT–INTERMEDIATE PRACTICUM** You will complete a minimum of 72 hours of on-site clinical experience with documented, supervised assessment, IV initiation, and medication therapy. Optional skills may include subcutaneous injections and other skills under the EMT-I scope of practice. You must successfully complete HSCI 163, 163L, and 164L to be eligible to register to take the state board exam to become an EMT-Intermediate. **Prerequisites:** EMT-Basic licensure with current AHA CPR card. **Co-requisite:** HSCI 163 and 163L. (2, 0T+2L)

165  **EMT–INTERMEDIATE REFRESHER** Provides you with an update in new protocols, skills, and medical information to already licensed EMT’s. Required every two years to maintain state or national certification. **Prerequisites:** HSCI 163 and 163L. (2, 2T+0S)
NUTRITION  Introduces you to the basic concepts of nutrition with an emphasis on health promotion and disease prevention and/or control. You will study nutrition across the life cycle including special needs of individuals, families, and cultures; concepts of diet care planning, including diet assessment, planning, implementation, and evaluation. This course will encourage you to practice sound nutritional practices in your daily life. \textit{Prerequisite:} BIOL 110/L or CHEM 110/L. (3, 3T+0L)

HISTORY (HIST)

Note: Each course in this department bears a Prerequisite of ENG 109N or an adequate score on the Course Placement Evaluation.

WESTERN CIVILIZATION I  Social, political, and economic development from ancient times to 1648. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN HIST 1053)

WESTERN CIVILIZATION II  Social, political, and economic development from 1648 to the present. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN HIST 1063)

HISTORY OF THE UNITED STATES TO 1877  Economic, political, social, and intellectual development to 1877. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN HIST 1113)

HISTORY OF THE UNITED STATES FROM 1877  Economic, political, social, and intellectual development from 1877. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN HIST 1123)

SOUTHWESTERN WOMEN’S HISTORY  You will explore women’s involvement in Southwestern history, including politics, economics, and culture. (3, 3T+0S)

CHICANO EXPERIENCE IN THE U.S.  You will analyze and examine historical, cultural, political, and economic conditions of Chicanos in the U.S. (3, 3T+0S)

AMERICAN INDIAN HISTORY  You will study the history of Indians of North America, both pre-Colombian and post-Columbian: social and political structures, cultural patterns, and the sequence of relationships both with other Indian groups and with the U.S. government. (3, 3T+0S)

HISTORY OF NEW MEXICO  Survey from the explorations of Cabeza de Vaca to the present: the borderlands, Spanish, Indian, and Anglo contributions. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN HIST 2113)

HISTORY OF JUDEO-CHRISTIAN MUSLIM RELATIONS  You will examine the nature of Judeo-Christian Muslim relations in different contexts and years of world history, with focus ranging from the Crusades to modern experiences in the world. You will concentrate on historical and societal dimensions rather than theology. (3, 3T+0S)

TOPICS IN AMERICAN HISTORY  The course is a focused study of topic or issues within the study of American history. Content varies from semester to semester. The course involves readings, lecture, discussion and composition. As topics vary, consult a current Schedule of Classes for specific content areas. \textit{Prerequisite:} ENG 112. (Fall) (3, 3T+0L)

INDIGENOUS HISTORY  The course is a concentrated study of the indigenous history of North America. The content includes both creative and academic readings that illustrate the theories and issues of the indigenous Americas. The course involves readings, lecture, discussion and composition. As topics vary consult the instructor for specific content areas. \textit{Prerequisite:} ENG 111 (SPRING) (3, 3L+0L)
### HONORS TOPIC

This is an interdisciplinary exploration of specific topics designed to demonstrate the inter-connectedness of academic disciplines. May be repeated 4 times for credit. With permission of department chairperson, you may use this course to satisfy graduation requirements in the humanities or social/behavioral science general education core requirements, depending on the topic direction. **Prerequisite:** ENG 112 and a minimum 3.2 cumulative GPA. (3, 3T+0S)

### HOSPITALITY, TOURISM, AND RESTAURANT MANAGEMENT (HTRM)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Description</th>
<th>Prerequisite</th>
<th>Credits</th>
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<tbody>
<tr>
<td>130</td>
<td><strong>INTRODUCTION TO MANAGEMENT IN THE HOSPITALITY INDUSTRY</strong></td>
<td>You will explore and analyze management opportunities, functions, methods, and concepts in various segments of the hospitality industry. <strong>Prerequisite:</strong> ENG 109N, or adequate score on Course Placement Evaluation.</td>
<td>(3, 3T+0S)</td>
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<tr>
<td>133</td>
<td><strong>CASINO MANAGEMENT</strong></td>
<td>You will study the historical and current perspectives of the gaming industry as those apply to management principles for casino operations, including coordination with traditional hospitality services. <strong>Prerequisite:</strong> HTRM 130.</td>
<td>(3, 3T+0S)</td>
<td>3</td>
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<tr>
<td>135</td>
<td><strong>HOTEL MANAGEMENT</strong></td>
<td>You will study rooms management, including front office, housekeeping, security, and engineering with emphasis on operations, coordination, and communication within and between departments. <strong>Prerequisite:</strong> HTRM 130.</td>
<td>(3, 3T+0S)</td>
<td>3</td>
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<tr>
<td>140</td>
<td><strong>FOOD AND BEVERAGE SERVICE MANAGEMENT</strong></td>
<td>You will study food and beverage service management systems in the hospitality field. You will learn to analyze cost control and quality control techniques. This course requires a work site practice location. <strong>Prerequisite:</strong> ENG 109N, or adequate score on Course Placement Evaluation.</td>
<td>(3, 3T+0S)</td>
<td>3</td>
</tr>
<tr>
<td>142</td>
<td><strong>RESORT AND CASINO MARKETING AND MERCHANDISING</strong></td>
<td>You will study merchandising and marketing as a system concerned with motivating consumers to purchase hospitality products and services. <strong>Prerequisite:</strong> ENG 109N, or adequate score on Course Placement Evaluation.</td>
<td>(3, 3T+0S)</td>
<td>3</td>
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<tr>
<td>210</td>
<td><strong>INTERNSHIP</strong></td>
<td>You will be involved in supervised off-campus non-group instruction including field experiences, practica, or internships with a requirement that you provide written and oral critiques of the activities required. <strong>Prerequisite:</strong> prior approval of proposed assignment by instructor and completion of all other courses.</td>
<td>(3, 0T+3S)</td>
<td>3</td>
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### HUMANITIES (HUM)

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>100</td>
<td><strong>THE HISTORY AND CULTURE OF NORTHERN NEW MEXICO</strong></td>
<td>We will examine the culture and history of northern New Mexico as it is experienced in the politics, education, arts and traditions of the region. As we analyze northern New Mexico through various types of literature, we will also examine our own particular beliefs and impressions. HUM 100 is designed to engage students in the college community and reinforce academic success skills. <strong>Prerequisite:</strong> ENG 108N (Fall, Spring, Summer)</td>
<td>(3, 3T, 0L)</td>
<td>3</td>
</tr>
<tr>
<td>101</td>
<td><strong>HUMANITIES I</strong></td>
<td>Comparative study of religion, philosophy, art, metaphysics, ethics, and aesthetics (B.C.E. to 1500 C.E.). <strong>Prerequisite:</strong> ENG 109N, or adequate score on Course Placement Evaluation.</td>
<td>(3, 3T+0S)</td>
<td>3</td>
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<tr>
<td>102</td>
<td><strong>HUMANITIES II</strong></td>
<td>Comparative study of religion, philosophy, art, metaphysics, ethics, and aesthetics (1500 C.E to present.). <strong>Prerequisite:</strong> ENG 109N, or adequate score on Course Placement Evaluation.</td>
<td>(3, 3T+0S)</td>
<td>3</td>
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<tr>
<td>103</td>
<td><strong>THE SEARCH FOR MEANING</strong></td>
<td>This course examines various topics related to the personal search for meaning through the lens of the Humanities and within the social</td>
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The course involves readings, discussions, research and composition. **Prerequisite:** ENG 109. (Fall, Spring) (3, 3T+0S)

**105  HUMANITIES AND THE SOUTHWEST** This course emphasizes local and regional history, anthropology, ecology, art and folklore as a familiar, verifiable bridge into the universe of human experience; local solutions of universal human problems; the human place in the natural and cultural environment of the Southwest; the human capacity for expression, creativity, and the nature and transmission of knowledge. Involvement is primarily based on personal investigative assignments. **Prerequisite:** ENG 109N. (3, 3T+0S)

**110  HUMANITIES II** Comparative study of religion, philosophy, art, metaphysics, ethics, and aesthetics (1500 C.E to present.). **Prerequisite:** ENG 109N, or adequate score on Course Placement Evaluation. (3, 3T+0S)

**200  COMPARATIVE RELIGION** To gain a familiarity with the major religious traditions in the world, you will examine various religious traditions and practices, focusing on the similarities and differences between their conception of the Divine and different religious conceptions of what it means to live the “good life.” You will alternate between (a) reading secondary texts that compare religious traditions from an “outsider” perspective and (b) reading primary texts central to each religion. **Prerequisite:** ENG 109N. (3, 3T+0S)

**204  HISPANIC FEMINIST STUDIES** You will be introduced to the interdisciplinary field of Chicana Studies, including historical research on labor, political involvement, cultural studies, and feminism. (3, 3T+0S)

**220  SURVEY OF BIOETHICS** You will examine ethics within the fields of medicine, research, and holistic health care practice through such topics as informed consent, confidentiality, truth-telling, death and dying, mental illness, human experimentation, stem cell research, resource allocation, and justice in health care. You will study a selection of classic historical and contemporary case studies reflecting your pre-professional and personal interests. Cross-listed as IHS 220. (3,3T+0S)

**246  TOURISM AND THE ARTS IN NEW MEXICO PUEBLOS** As tourism and art production have become principal means for the Pueblo peoples of New Mexico to support their families and communities, you will study this course through a multi-lens perspective of this economic, cultural, and aesthetic reality using historical readings, short films, and visits to local museums and Pueblo artists’ galleries. **Prerequisite:** ENG 111. Cross-listed as PIS 246. (3, 3T+0S)

**281  SPIRIT OF PLACE, NATIVE SENSES OF PLACE** You will examine the meaning of place in your life and its particular importance to understanding Native identity and culture. You will focus on how to relate place with examples of how Native writers, poets, artists, storytellers, and other performers convey a “sense” or “spirit” of place in their work. **Prerequisite:** ENG 111. Cross-listed as PIS 281. (3, 3T+0S)

**294  WORLD MYTHOLOGY** This course provides a comparison and study of the mythologies of a variety of civilizations. The course may focus on different mythologies depending on the semester. The areas of study may include Greek mythology, Roman mythology, Celtic mythology, and/or Native American mythology, as well as a study of the basic cross-cultural patterns found in mythological traditions. Cross-listed with ENG 294. **Prerequisite:** ENG 111. (Fall, Spring). (3, 3T+0S)

**318  ORAL TRADITIONS: FOLK STORIES** In order to develop an understanding of how oral traditions and folk stories shape the way people understand and interpret their experiences, you will explore folk stories from various cultures, with a special emphasis on Native American, Hispanic, and African American cultures. You will experience storytelling through guest speakers, class presentations, and films. Through class discussion and writing, you
will develop critical responses and analysis of folktales, focusing on cultural patterns and perceptions. To help you better understand the role of folk stories in our community, you will participate in a service learning project that supports the preservation and celebration of folk stories and the oral tradition. Prerequisite: ENG 112. Cross-listed as ENGL 318. (3, 3T+0S)

324 EPIC LITERATURE AS PSYCHOLOGICAL INSIGHT Students will learn to use epic literature as a way of developing a greater understanding of their own lives and the culture they live in. The course will focus on a critical reading of texts as a way of uncovering and understanding larger social, cultural and psychological ideas. (3, 3T+0S)

390 TOPICS IN THE STUDY OF RELIGION Focused study of religious traditions and/or issues within the study of religion; content varies each semester. The course involves readings, lecture, discussion, and composition. As topics vary, consult a current Schedule of Classes for specific content areas. Prerequisite: ENG 112. (Fall, Spring, Summer) (3, 3T)

450 READINGS IN CRIME AND JUSTICE In this upper division seminar, taught in the conversational method, students will examine in a comparative context the issues of crime, punishment/incarceration, and notions of justice through reading landmark works in crime and justice, including literature, art, history, and philosophy of law from different eras and cultures. Prerequisite: ENG 112. Cross-listed as HSS 433. (4, 4T+0S)

460 MYTHIC WAYS OF KNOWING In this class, you will explore mythology as a way of knowing. You will compare and analyze mythic stories from many different cultures in order to understand the patterns in these myths and what they have to say about the human being. In addition to analyzing mythological patterns in primary texts, you will examine various perspectives and systems of thought that seek to understand the meaning of mythological material. Prerequisite: ENG 111. (3, 3T+0S)

HUMANITIES AND SOCIAL SCIENCES (HSS)

222 TEACHING IN DIVERSE COMMUNITIES In today’s world, teaching only those students who share a teacher’s or a community’s background is neither desirable nor likely to happen. Diversity in an educational setting requires teachers to develop a framework for understanding how issues of culture, class and language impact the educational institution and relevant socio-cultural and to practice socioeconomic pedagogy that affirms and legitimizes the diversity of students. Our hope is to prepare “transformative teachers” by not only critically examining self and education, but implementing classroom practices that promote equity and justice and rigorous academic achievement for all students. Prerequisite: ENG 109N. (3, 3T+0S)

288 FOUNDATIONS OF INTEGRATED STUDIES This is an introductory course to the B.A. in Integrated Studies. Students will study the nature of disciplines and interdisciplinary work. They will also be introduced to the Integrated Studies degree and to inquiry-based learning that extends beyond the boxes of traditional disciplines. Prerequisite: ENG 111. (Fall, Spring). (3, 3T+0S).

310 PERSPECTIVES ON NEW MEXICO HISTORY AND CULTURE Inhabited for thousands of years, New Mexico and its peoples have a complex and wondrous history. A steady stream of peoples and cultures, from the Pueblos to the Spanish, and from the United States to the National Laboratories, has shaped New Mexico and its environs. Through various readings taken up according to the conversational method, the student will thoughtfully engage in discovering what New Mexico is, its arts, politics, economics, history, and society. Prerequisite: ENG 112. (4, 4T+0S)
311  READINGS IN THE SOCIAL SCIENCES  In this seminar, taught in the conversational method, students will read and discuss great works and ideas from the major social sciences. The works from these disciplines, such as Psychology, Sociology, Anthropology, Political Science, and Economics, explore the social structures that influence how we understand our social environment and ourselves. Often these works—such as the works of the psychologist Sigmund Freud—have themselves influenced our shared and individual experience so profoundly that they shape, perhaps unknowingly, our view of the world. Prerequisite: ENG 112. (4, 4T+0S).

320  GENESIS OF MATHEMATICS AND SCIENCE  This seminar, taught according to the conversational method, will examine landmark works and ideas from the history of mathematics and the natural sciences. These disciplines represent a dialogue with a rich tradition. Isaac Newton once wrote that, “If I have seen a little further it is by standing on the shoulders of Giants.” In this class, we will be engaging in conversation with giants from the field of mathematics and the sciences by reading various texts and by asking basic questions that arise from those texts. We will be asking the most basic questions, the kind whose answers are mostly taken for granted in traditional mathematics and sciences classes. Prerequisite: ENG 112. (4, 4T+0S)

324  EPIC LITERATURE AS PSYCHOLOGICAL INSIGHT  You will learn to use literature as a way of developing a greater understanding of our own lives and the culture in which we live through a study of great literary works and their themes within the interdisciplinary context of the themes that the literature explores, and you will use critical reading of texts as a way of uncovering and understanding larger social, cultural, and psychological themes in the works. In addition, you will demonstrate an ability to use literature as a lens for exploring both cultural mythologies and the individual psyche. Prerequisite: ENG 112. (3, 3T+0S)

388  INTEGRATED STUDIES II  In this junior-year, inquiry-based course, students will explore a single, fundamental question, such as the following: “What is the Enlightenment?” Questions will be fundamental and will require material and methods from more than one point of view, cultural tradition, and academic discipline. Prerequisite: HSS 288. (Fall). (3, 3T+0S)

410  SENIOR SEMINAR: TEACHING THE HUMANITIES  This course focuses on integrating the different aspects of humanities education by teaching the humanities in an educational setting. (1, 1T)

414  HUMANITY AND CREATIVITY  New Mexico is one of the great artistic areas of the United States. It is home to archaic petroglyphs and prehistoric pottery, as well as traditional retablos and weavings; it is the inspiration for distinctive artists such as Georgia O’Keeffe and D.H. Lawrence. This course will explore art and its place by applying the conversational method to great works and ideas of and about art. We will examine questions such as these: What is art? What is an artist? What in us needs art? Prerequisite: ENG 112. (4, 4T+0S)

421  THEMES IN THE HUMANITIES: HISTORY, LITERATURE, ART, AND PHILOSOPHY  This seminar, taught according to the conversational method, will examine works from the humanities disciplines, such as philosophy, literature, and history. The great themes in the humanities are driven by the most fundamental needs and questions that human beings have, such as the need for meaning, and the questions why are we here, and what may be our highest hopes and aspirations. Prerequisite: ENG 112. (4,4T+0S)

450  READINGS IN CRIME AND JUSTICE  In this upper division seminar, taught in the conversational method, students will examine in a comparative context the issues of crime, punishment/incarceration, and notions of justice through reading landmark works in crime
and justice, including literature, art, history, and philosophy of law from different eras and cultures. **Prerequisite:** ENG 112. Cross-listed as HUM 433. (4,4T+0S)

488  **INTEGRATED STUDIES III (WIC)** In this intensive-writing capstone, under the guidance of the workshop instructor and under a general course theme, students will select a series of interdisciplinary questions that will be explored throughout the semester. Questions will be fundamental and will require material and methods from more than one point of view, cultural tradition, and academic discipline. **Prerequisite:** HSS 388. (Spring). (3, 3T+0S)

**INFORMATION TECHNOLOGY (IT)**

210  **INFORMATION TECHNOLOGY SYSTEMS** You will study the basic components of IT systems, including networking, web systems, databases, system administration and maintenance, scripting, and system integration. **Prerequisites:** EECE 152L. (3, 2T+1L)

250  **INTRODUCTION TO DATABASES** Through an introduction to database software, you will study the Entity-Relationship model, basic database tables, queries, forms, and report creation and management. **Prerequisite:** EECE 152L. (3, 3T+0S)

350  **DATABASE MANAGEMENT** You will study current trends in data management, studying topics which include database theory and architecture, normalization, query languages, security and Web applications, focusing primarily on a study of database structures and design, hierarchical and relational models, and database access using Oracle SQL. **Prerequisite:** IT 250. (3, 2T+1S)

410  **INFORMATION ASSURANCE AND SECURITY** This course introduces students to the principles of assurance and security, and then applies those principles to industrial and enterprise networks and information systems. The course provides a theoretical background of traditional and modern cryptographic techniques to provide for confidentiality, integrity, and availability. Concepts are then applied to secure and assure information, using a variety of techniques and frameworks such as AAA architecture, firewall technologies, intrusion prevention systems, and virtual private networks and secure management. **Prerequisites:** EECE 230 and 330 (3, 2T+1S)

490  **IT CAPSTONE I (WIC)** Capstone I is a project-oriented course where students work in teams to design and implement a large IT-related project. Projects are prepared in response to an industrial or in-house sponsor. Engineering ethics and project management skills such as communication and team management are reinforced through modules during the semester, and are applied to the different stages of the project. The course finalizes with oral presentations, written reports and/or student demonstrations which are judged by a panel composed of faculty members and external guests. IT 490 is a designated Writing Intensive Course (WIC). **Prerequisite:** senior standing, Information Engineering Technology major. (3, 2T+1S)

491  **IT CAPSTONE II** Capstone II is a project-oriented course where students work in teams to design and implement a large IT-related project. Projects are prepared in response to an industrial or in-house sponsor and may be a continuation of the project developed in Capstone I. Project management skills such as communication and team management are applied to the different stages of the project. The course finalizes with oral presentations, written reports and/or student demonstrations which are judged by a panel composed of faculty members and external guests. **Prerequisite:** IT 490. (3, 2T+1S)

510  **INFORMATION ASSURANCE AND SECURITY** You will study the background of information systems-security fundamentals and tools, emphasizing the role of general and application systems controls in protecting data and computing resources, the identification
INTEGRATIVE HEALTH STUDIES

of threats, and the administrative and technological tools and techniques used to audit and monitor access and access control. Prerequisites: EECE 355 and IT 350. (3, 2T+1S)

530 NETWORK ADMINISTRATION The practice of network administration in organizations in which security, application control, software updates, hardware inventory control and operational costs are of paramount importance. Economic modeling of organizational tasks in capital outlay, operational budgets and expense savings. (3, 3T+0S)

599 TOPICS IN IT Special topics in the IT field. (3, 3T+0S)

INTEGRATIVE HEALTH STUDIES (IHS)

102 INTRODUCTION TO HOMEOPATHY You will study the basic concepts of homeopathy including common remedies as well as the use of homeopathy in first-aid. (3, 3T+0L)

103 MEDITATION AND BREATH: MIND-BODY HEALING You will study meditation and breathing exercises (pranayam) for personal spiritual development and self-care, and utilization by healthcare providers. You will review research on the physiologic aspects of meditation and its effects on health and mood. (2, 2T+0L)

116 INTRODUCTION TO AROMATHERAPY You will explore traditional and modern Egyptian, German, French, and English concepts of the chemistry of essential oils on body, mind, and spirit. You will also explore how oils are made, how they work, and what constitutes a good quality oil. (3, 3T+0L)

118 INTRODUCTION TO INTEGRATIVE HEALING You will undertake a comprehensive comparison of Western medicine, Native American healing traditions, Traditional Chinese medicine, Ayurveda, and other healthcare belief systems. (3, 3T+0L)

255 INTRODUCTION TO HERBAL MEDICINE Introduces health personnel to basics of herbal medicine in order to gain a greater understanding of this form of alternative medicine, specific indications, physiological action, dosage, possible side effects, contraindications, and practical usage or herbs are discussed addressing nine body systems. Co-requisite: IHS 257. (2, 2T+0L)

257 HERBAL PHARMACY In this course you will build on the information learned in IHS 255, including hands-on practice in making salves, tinctures, liniments, teas, etc. Co-requisite: IHS 255. (2, 2T+0L)

305 HISTORICAL DEVELOPMENT OF HEALTH CARE PARADIGMS You will review major paradigms in healthcare and the possibility of integration among them. You will cover a brief history of medicine and recent developments in alternative medicine. Prerequisites: ENG 112 and IHS 118. (2, 2T+0L)

357 HERBAL MEDICINE II In this continuation of Herbal Medicine I, you will explore more advanced methods and specific uses of herbal preparations. Prerequisites: IHS 255 and 257. (2, 2T+0L)

358 HERBAL PHARMACY II Building on previous herbal courses, you will refine your knowledge and mastery of herbal formula-making. Upon completion of the course, you will be able to formulate specific remedies useful for a wide range of conditions. Co-requisite: IHS 357. (Fall) (2, 2T+0L)

381 TRADITIONAL REMEDIOS OF NORTHERN NEW MEXICO I In this course, you will learn to synthesize the traditional herbal knowledge of two cultures, the Pueblo Indians and the first Spanish settlers. You will see the native herbs of the Southwest come alive as you explore their uses, historical methods of harvesting, and the preparation and environments in which they grow. Prerequisites: IHS 255 and 257. (2, 2T+0L)
TRADITIONAL REMEDIOS OF NORTHERN NEW MEXICO II In this continuation of IHS 382, you will explore Traditional Remedios, weaving history and folklore through time and place—past, present and future. You will discuss the effects of modernization, cultural diversity, and technology on traditional herbal practices in northern New Mexico. Prerequisite: IHS 381. [Fall] (2, 2T+0L)

HERBAL MEDICINE III You will explore in-depth botanical material medica via a body systems approach. You will learn botanical names of the herbs and their active chemical constituents. Prerequisite: IHS 357. (2, 2T+0S)

HERBAL MEDICINE III LAB In this course you will apply the concepts learned in IHS 408. Prerequisites: IHS 357 and 358 (1, 0T+1L)

EVOLUTION OF CROSS-CULTURAL HEALING In this overview of cultural and anthropological influences on health beliefs with an emphasis on New Mexico. You will examine “lay” or “folk” understanding of the causes and management of disease. You will discuss traditional approaches to health and healing (e.g., shamanism, curanderismo). Prerequisite: ENG 112 and IHS 118. (3, 3T+0L)

LAW ENFORCEMENT (LE)

The following courses are not taught at Northern. They exist only in terms of enabling posting of incoming credit from other colleges which offer these courses.

PATROL, COMMUNICATIONS AND INVESTIGATIONS You will learn the functions of a patrol officer as that job relates to law enforcement. You will study effective communication skills, professional writing skills, and effective investigative skills associated with being the first responder at a crime scene. (6, 6T+0S)

TRAFFIC, ENFORCEMENT AND ACCIDENT INVESTIGATION In this course, which encompasses the part of your training standards mandated by the New Mexico Law Enforcement Academy, you will gain the knowledge and skills necessary to recognize and properly enforce traffic laws in the State of New Mexico. (3, 3T+0S)

POLICE PROFICIENCY I In this course, which encompasses that part of your training standards mandated by the New Mexico Law Enforcement Academy, you will learn the basic investigative skills with regard to solving criminal activities, such as auto theft, burglary, robbery, sex crimes, narcotics recognition, child abuse, and stalking. (3, 3T+0S)

POLICE PROFICIENCY II In this course, which encompasses that part of your training standards mandated by the New Mexico Law Enforcement Academy, you will continue your study of investigative techniques and evidence gathering begun in LE 237. (3, 3T+0S)

POLICE PROFICIENCY III In this course, which encompasses that part of your training standards mandated by the New Mexico Law Enforcement Academy, you will study defensive tactics, the use of force and firearms training Prerequisite: LE 238. (3, 3T+0S)

FIRST RESPONDER FOR LAW ENFORCEMENT You will complete American Red Cross courses in standard first aid, CPR, emergency childbirth, and the care and handling of injured persons. (1, 1+0S)

LIBRARY TECHNOLOGY (LT)

Note: Unless otherwise noted, each course in this program has a co-requisite of ENG 109N. Classes are normally scheduled for Saturdays only.

LIBRARY RESEARCH SKILLS This course focuses on the basic concepts necessary
for locating, accessing, evaluating and using appropriate information sources for academic research. **Prerequisite:** ENG 109N. (1, 1T)

**201 CATALOGING** Current practices in cataloging, classification, and processing of print and non-print material. You will become familiar with AACR2, Library of Congress and Dewey Decimal classification systems, and Sears and LC subject headings. You will be introduced to MARC tagging and automated cataloging techniques, including copy cataloging and ALA filing rules. (3, 3T+0S)

**202 TECHNICAL SERVICES—ACQUISITIONS** Techniques of selecting, ordering, and receiving library materials; collection development policies, intellectual freedom, copyright and automated acquisitions programs. (3, 3T+0S)

**205 PUBLIC SERVICES** Public services in all types of libraries, the role of the library technician, and the place of libraries in society; circulation, reference services, ILL, programming, and public relations; includes an introduction to automated library programs related to public services. (3, 3T+0S)

**207 BASIC REFERENCE** Evaluation and use of about 100 basic reference sources used in libraries as well as electronic resources. (3, 3T+0S)

**209 MEDIA SERVICES** Survey of processes necessary for acquisition, use, and maintenance of equipment common to media centers; includes some production work. (3, 3T+0S)

**213 SPECIAL LIBRARIES** Philosophy and organization of a special library, covering all aspects of operation; includes an introduction to automated library systems relative to special libraries. **Prerequisites:** LT 201, 202, 205, and 207. (3, 3T+0S)

**215 PUBLIC LIBRARIES** Philosophy and organization of a public library, including all aspects of operation; includes an introduction to automated library systems relative to public libraries. **Prerequisites:** LT 201, 202, 205, and 207. (3, 3T+0S)

**217 SCHOOL LIBRARIES** Philosophy and organization of a school library, covering all aspects of operation; includes an introduction to automated library systems relative to school libraries. **Prerequisites:** LT 201, 202, 205, 209, and ENG 270. (3, 3T+0S)

**219 ACADEMIC LIBRARIES** Philosophy and organization of a college/university library, covering all aspects of operation; includes an introduction to automated library systems relative to academic libraries. **Prerequisites:** LT 201, 202, 205, and 207. (3, 3T+0S)

**220 ADVANCED REFERENCE MATERIALS** Evaluation and use of specialized reference materials (print and electronic) for libraries in business, science, fine arts, and social sciences. (3, 3T+0S)

**221 MEDIA PRODUCTION** Student production of media projects in video, computer programs, film, slides, or audio tapes. (3, 3T+0S)

**223 LIBRARY INFORMATION FOR EDUCATORS** As a future teacher, you will be introduced to the basic concepts for locating, accessing, and evaluating library information. You will learn how resources in print and electronic format can be used in a classroom setting. **Prerequisite:** ENG 111. (1, 1T+0S)

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**MASSAGE THERAPY (MAS)**

Only those formally admitted to the Massage Therapy Program may enroll in MAS courses. This does not include one credit elective classes.

**111 APPLIED KINESIOLOGY** You will learn introductory methods of evaluation and bodywork that use a specialized type of muscle testing and various forms of massage and bodywork for corrective procedures. (1, 1T+0S)
113 INTRODUCTION TO FOOT REFLEXOLOGY You will learn to incorporate Foot Reflexology into your massage therapy treatment. You will cover the material needed to create a 60-minute treatment routine. Time will be devoted to theory, review, and to questions followed by demonstration and treatment practice. (Spring and Fall) (2, 2T+0S)

115 CRANIAL SACRAL TECHNIQUES I You will be introduced to the basic anatomy, principles, palpation, and application techniques of cranial sacral. You will learn the first of three levels in Cranial Sacral techniques. (Fall, Spring, Summer) (1, 1T+0S)

116 CRANIAL SACRAL TECHNIQUES II In a continuation of MAS 115, you will review and refine the basic skills you mastered previously. You will expand techniques to access all of the cranial and facial bones, as well as being able to work with the whole body. The goal will be to bring more balance to the entire nervous system. You will gain a solid foundation to incorporate Cranial Sacral modalities into your treatments. Prerequisite: MAS 115 (2, 2T+0S)

117 INTRO TO THAI MASSAGE You will study traditional Thai massage as an experience of rhythmical movement in which you will lead the receiver through a flow of passive yoga stretches, deep muscle pressure, and joint mobilization. (Fall, Spring, Summer) (1, 1T+0S)

120 THAI MASSAGE II This class is a continuation of Intro to Thai Massage. Prerequisite: MAS 117. (1, 1T+0S)

121 USUI REIKI, LEVEL I You will learn the basic history, theory, and application of Reiki necessary for a Level-One Reiki practice. This class lays the foundation for the further study and practice of Reiki. (1, 1T, 0L)

122 HOT STONE MASSAGE AND BASIC HYDROTHERAPY Students learn basic application techniques of hot stones to the body, contraindications, appropriate selection and care of stones, techniques to work with cold stones, and principles of Hydrotherapy. Stone sets for in class use will be provided by the College. Co-requisite: MAS 101L. (Fall) (1, 1T+0S)

123 CHAIR MASSAGE Students will be introduced to the basics of Chair Massage. Techniques, treatment protocols, and on-site chair massage strategies will be covered. Massage chairs will be provided by the college. (Fall, Spring, Summer) (1, 1T+0S)

126 INTRODUCTION TO SPA THERAPIES AND TRADECRAFT This class will introduce massage therapists and massage therapy students to the spa as a possible work place and introduce basic exfoliation and hydro therapy treatments. Tradecrafts are skill that are helpful in any professional massage practice and will include communication, draping creating setting, ethics in the work place and assuring client comfort for treatments. This class can enhance treatment quality and client report for all manual therapists. (1, 1T+0L)

200 TRIGGER POINT THERAPY While learning the basics of Trigger Point Therapy, you will begin to understand myofacial pain syndrome and learn to use touch, breath, sound, and movement to empower the person in pain. Prerequisite: Be a current Massage Therapy student or be a Licensed Massage Therapist. (1, 1T+0L)

215 CRANIAL SACRAL TECHNIQUES III In a hands-on clinic open to the public, you will practice the Cranial Sacral techniques learned in MAS 115 and 116. Prerequisite: MAS 115 and 116. (Fall, Spring, Summer) (0.5, 0T+0.5S)

MATERIALS SCIENCE (MATE)

101 MATERIALS SCIENCE AND PROPERTIES Descriptive introduction to properties and structures of materials. Prerequisites: MATH 102N or MATH 103N and ENG 109N. (2,2T+0S)
MATHEMATICS

290  **INTRODUCTION TO MATERIALS SCIENCE**  An interdisciplinary survey covering tools and techniques used in the study of the structure and mechanical properties of engineering materials (e.g., semiconductors, polymers, metals). Includes discussion and demonstrations of materials strengthening, materials failure, and non-destructive evaluation methodology. **Prerequisite:** CHEM 121 and 121L. (Spring only) (3, 3T+0L)

300L  **CORROSION SCIENCE AND ENGINEERING LAB**  You will be engaged in lab experiences which supplement MATE 300. **Co-requisite:** MATE 300. (1, 0T+1L)

**MATHEMATICS (MATH)**

100N  **FUNDAMENTALS OF MATHEMATICS**  Introduction to the mathematical method and its use in practical applications. Students will use fundamental operations with fractions, decimals and signed values; convert between fractions, decimals and percentages; apply the order of operations correctly; create algebraic expressions and equations; simplify algebraic expressions and equations; manipulate formulas; translate verbal statements into algebraic expressions and equations; solve linear equations; create tables and graphs; interpret graphs; and describe the results of problem solving orally and in writing. Grades are awarded on a CR/NC basis. **Prerequisite:** Adequate score on the Course Placement Exam. (4, 4T+0L)

100NL  **FUNDAMENTALS OF MATHEMATICS AND LAB**  This course will cover basic operations (addition, subtraction, multiplication and division) with numbers in addition to all the topics listed in MATH 100N. Students will also spend additional time in a computer lab. Grades are awarded on a CR/NC basis. (5, 4T+1L)

102N  **BASIC ALGEBRA**  First complete course in algebra for those not prepared for college-level algebra. Students will learn ratio and proportion, solutions of linear equations and systems of linear equations, exponents, radicals, graphs, factoring, quadratic equations, rational expressions, polynomials, inequalities and applications. Grades are awarded on a CR/NC basis. **Prerequisite:** MATH 100N or adequate score on Course Placement Evaluation. (4, 4T+0L).

103N  **ACCELERATED FUNDAMENTAL AND BASIC ALGEBRA**  This course combines the courses of MATH 100N and MATH 102N in an accelerated course. Students will learn: operations with fractions, signed numbers, decimals, and order of operations; converting between fractions, decimals and percentages; graphing and solving simple algebraic equations and inequalities; solving two equations and two unknowns; simplifying, adding, subtracting, multiplying, dividing and factoring polynomials; simplifying, adding, subtracting, multiplying and dividing rational expressions; operations with exponents and radicals; solving quadratic equations and the quadratic formula; and computing with scientific notation. Students will apply the above concepts to applications. Grades are awarded on a CR/NC basis. **Prerequisite:** Adequate score on Course Placement Exam. (Fall, Spring, Summer) (4, 4T+0L).

104N  **APPLIED TRADES MATH I**  Covers material designed for career technical students who need to study particular mathematical topics which may include calculator usage, algebra, geometry, trigonometry, graphs, and finance. This course prepares students for advanced applied trades math. **Prerequisite:** MATH 100N, or adequate score on Course Placement Evaluation. (3, 3T+0L).

129  **PROBLEM SOLVING METHODS**  This course presents strategies for solving mathematical problems for non-math majors. Topics include the review of the number system, algebraic graphs and functions, linear and exponential equations, systems of linear equations in two variables, the metric system, conversions and geometry. **Prerequisite:** MATH 102N. (4,4T+0L)
130 INTERMEDIATE ALGEBRA The course will cover graphing, linear functions, solving linear equations and inequalities, solving two equations and two unknowns, absolute value equations and inequalities, multiplying and factoring polynomials, operations with rational expressions, simplifying, dividing and multiplying radical expressions, the quadratic formula, and applications and word problems using the above concepts. **Prerequisite:** 23-40 on COMPASS (COAL). (Fall, Spring) (4, 4T+0L)

130L ACCELERATED INTERMEDIATE ALGEBRA AND LAB This course covers all the topics in MATH 130. However students will spend additional time in a computer lab. **Prerequisite:** Math 100N or 100NL or 47-100 COMPASS (COMA) or 0-22 COMPASS (COAL). (Fall, Spring) (5, 4T+1L)

132 APPLIED TRADES MATH II Covers material designed for career technical students or general studies students who need to study particular mathematical topics. **Prerequisite:** MATH 102N, MATH 103N, or MATH 104N. (3, 3T+0L)

145 INTRODUCTION TO PROBABILITY & STATISTICS This course will cover descriptive statistics including frequency distributions, mean, median, mode, standard deviation, the normal curve, correlation and linear regression. Probability and counting principles will also be studied. Topics in inferential statistics that will be covered include the binomial distribution, hypothesis testing, the sign-test, z-test, t-test and confidence intervals. **Prerequisite:** MATH 130L or MATH 130. (3, 3T+0L)

150 COLLEGE ALGEBRA This course will examine functions and their graphs, linear and quadratic functions and optimization problems, polynomial, rational, exponential, and logarithmic functions and their applications, as well as linear systems of equations, matrices, and Gaussian elimination. **Prerequisite:** MATH 130L or MATH 130. (3, 3T+0L)

151 CONCEPTUAL MATHEMATICS This course is a survey of mathematical topics. It emphasizes general problem solving skills and applications of mathematics in various disciplines. The topics that will be covered include the evolution of number systems, basic geometry, and probability. **Prerequisite:** MATH 129 or MATH 130L or MATH 130. (3, 3T+0L)

155 TRIGONOMETRY and PRE-CALCULUS This course serves as preparation for calculus. The course covers the definition of trigonometric functions, radian and degree measure, inverse trigonometric functions, graphs of trigonometric and inverse trigonometric functions, trigonometric identities, circular functions, triangles, vectors, complex numbers, polar coordinates and graphs. This course also contains more advanced pre-calculus concepts: conic sections, parametric equations, exponential and logarithmic functions and applications in geometry. **Prerequisite:** MATH 150. (Fall, Spring) (4, 4T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area II (NMCCN MATH 1214)

162 CALCULUS I The course will cover functions, limits and continuity, differentiation (including product, quotient, and chain rule and derivatives of trigonometric functions), implicit differentiation, related rates, extrema and applications of differentiation, the indefinite and definite integral, Riemann sums, Fundamental Theorem of Calculus and integration by substitution. **Prerequisite:** MATH 155. (4, 4T+0L)

162E CALCULUS I FOR ENGINEERS This course is intended for engineering majors and will examine Calculus I in more depth and rigor. The course will cover functions, limits and continuity, differentiation, related rates, extrema and applications of differentiation, the indefinite and definite integral, Riemann sums, Fundamental Theorem of Calculus and integration by substitution. **Prerequisite:** Math 155 (Cross-list with Math 162). (4, 4T+0L)

163 CALCULUS II Calculus II continues the study of Calculus I and its applications to inverse functions, logarithmic, exponential, inverse trigonometric and hyperbolic functions.
Techniques of integration (integration by parts, trigonometric substitution and partial fractions) will be discussed. Areas, volumes, centroids and arc lengths will be computed using integrals. Sequences, series, series tests, power and Taylor series will be covered. **Prerequisite:** MATH 162. (4, 4T+0L) Meets New Mexico Lower Division General Education Core Curriculum (NMCCN 1624)

**163E CALCULUS II FOR ENGINEERS** Calculus II for Engineers continues the study of Calculus I and its application to inverse functions, logarithmic, exponential, inverse trigonometric and hyperbolic functions. Techniques of integration (integration by parts, trigonometric substitution and partial fractions) will be discussed. Areas, volumes, centroids and arc lengths will be computed using integrals. Sequences, series, series tests, power and Taylor series will be covered. **Prerequisite:** MATH 162E. (Cross-listed with Math 163). (4,4T+0L)

**180 CALCULUS FOR BUSINESS AND LIFE SCIENCES** In this course, calculus concepts will be introduced without trigonometry. Concepts studied include the definition and application of limits, derivatives and integrals. The course will also discuss the chain rule and optimization. Connections will be made to solving problems in business, life and social sciences. **Prerequisite:** MATH 150. (4, 4T+0L)

**210 MATH FOR ELEMENTARY TEACHERS** This course will prepare you as a prospective elementary school teacher with problem solving techniques related to topics taught at the K-8 level. You will strengthen your understanding of mathematical topics through the study of problem solving, number theory, set theory, geometry, practical measurement, and the use of technology. **Prerequisite:** MATH 102N or MATH 103N. (3, 3T+0L)

**264 CALCULUS III** Parametric equations and vectors in the plane and in three-dimensional space, functions of several variables, extrema of functions in two variables, directional derivatives and gradients, tangent planes, multiple integrals and iterated integrals as applied to volumes, surface areas, centers of mass and moments of inertia, infinite series and test for convergence and divergence, and differential equations. **Prerequisite:** MATH 163 or 163E. (4, 4T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area II (NMCCN MATH 2614)

**275 INTRODUCTION TO NUMERICAL COMPUTING** This course will introduce solutions of non-linear equations of one variable, solutions of linear equations in many variables (matrices), interpolation, approximation of integration and differentiation of functions, computational solutions of initial-value problems for ordinary differential equations, and programming with mathematical software. **Prerequisite:** Math 163 and a computer language (3, 3T+0L)

**290 UNDERGRADUATE RESEARCH EXPERIENCE IN MATHEMATICS** This is a computer-based experience in mathematical research. You will learn computational modeling, experimental design, library and internet information searches and research methodology, while interacting with peers and faculty. You will prepare a technical report or poster on your activities. Research questions focus on nonlinear dynamics, differential equations, and mathematical physics. **Prerequisite:** MATH 162 or 162E. (May be repeated for credit) (3, 3T+0L)

**294 INTRODUCTION TO LINEAR ALGEBRA AND APPLICATIONS** This course will introduce systems of linear equations, Gaussian elimination, LU decomposition, matrix algebra and determinants, vector spaces, inner products, orthogonality, eigenvalues and eigenvectors and computational methods. **Prerequisite:** MATH 163 or 163E. (Spring) (3, 3T+0L)

**295 PRACTICUM IN MATHEMATICS** This course prepares the student to be able to use mathematics and apply mathematical skills to model and solve a real life problem. The
student will be involved in research in a topic of his or her choice under the recommendation of a faculty member. The topic could be selected from any applied area: for example, biology, engineering, environmental science, physics or business. **Prerequisite:** MATH 296 or permission of instructor. (3, 3T+0L)

### 296 INTRODUCTION TO APPLIED ORDINARY DIFFERENTIAL EQUATIONS
The course will introduce solutions of first order differential equations (separable equations, exact equations and integrating factors), second order differential equations (homogeneous equations and characteristic equations, methods of undetermined coefficients, and variation of parameters), Laplace transforms, and applications to physics, mechanical and electrical systems and population dynamics. **Prerequisite:** MATH 163 or 163E. (Fall) (3, 3T+0L)

### 311 VECTOR ANALYSIS
This course will cover vector algebra, lines, planes, parametric curves, arc length, tangent and normal vectors and curvature of parametric curves, vector identities, gradients and directional derivatives, line, surface and volume integrals, divergence and curl of vector-valued functions, Gauss’s and Stokes’s theorems and geometric interpretations. **Prerequisite:** MATH 264. (3, 3T+0L)

### 312 PARTIAL DIFFERENTIAL EQUATIONS
The course will cover the classification of partial differential equations, the heat, wave and Laplace’s equation, methods of solution of partial differential equations, separation of variables, Fourier series, Fourier transforms, Laplace transforms, coordinate transformations, and engineering and science applications. **Prerequisites:** MATH 264 and 316. (3, 3T+0L)

### 313 COMPLEX VARIABLES FOR ENGINEERING
The course will cover the algebra of complex numbers, analytic functions and the Cauchy-Riemann equations, Cauchy’s integral theorem, conformal mapping, contour integration and residues. Applications in engineering and physical problems will be included. **Prerequisite:** MATH 264. (3, 3T+0L)

### 314 LINEAR ALGEBRA WITH APPLICATIONS
The course will cover systems of linear equations, Gaussian elimination, LU decomposition, matrix algebra and determinants, least squares regression, vector spaces, inner products, orthogonality, eigenvalues, and eigenvectors, and computational methods. **Prerequisite:** MATH 163 or 163E. (Spring) (3, 3T+0L)

### 316 APPLIED ORDINARY DIFFERENTIAL EQUATIONS
The course will cover solutions of first order differential equations (separable equations, exact equations and integrating factors), second order differential equations (homogeneous equations and characteristic equations, method of undetermined coefficients, variation of parameters), Laplace transforms, series solutions, numerical methods, and applications to physics, mechanical and electrical systems and population dynamics. **Prerequisite:** MATH 163 or 163E. (Fall) (3, 3T+0L)

### 327 DISCRETE STRUCTURES
The course will emphasize principles of discrete math, including mathematical logic, inductive and deductive reasoning, recursive methods, as well as concepts involving discrete structures and their connections to problems in science, technology, and engineering. **Prerequisite:** MATH 163 or 163E. (3, 3T+0L)

### 338 MATHEMATICS FOR SECONDARY TEACHERS
Students will study advanced topics from secondary mathematics to meet the needs of pre- and in-service teachers. **Prerequisite:** MATH 163 or 163E. (3, 3T+0L)

### 345 ELEMENTS OF MATHEMATICAL STATISTICS AND PROBABILITY THEORY
Students will study probability theory, including combinatorics, probability densities, expectation, variance, correlation, estimation, confidence intervals, and hypothesis testing. Statistical tests (e.g., t-test, Chi-squared, ANOVA) will be discussed and used in applications related to biostatistics, social science and environmental science. **Prerequisite:** MATH 162 or 162E. (3, 3T+0L)
375 NUMERICAL COMPUTING (WIC) This course will cover solutions of nonlinear equations of one variable, solutions of linear equations in many variables (matrices), interpolation, techniques for approximation of integration and differentiation of functions, computational solutions of initial-value problems for ordinary differential equations, and programming with mathematical software. Students will be responsible for writing technical papers with citations describing the results of numerical computations. **Prerequisite:** MATH 163 or 163E and a computer language. (Spring) (3, 3T+0L)

395 PRACTICUM IN MATHEMATICS This course prepares the student to develop the skills to use mathematics and apply mathematical skills to model and solve a real life problem. The student will be involved in researching a topic of his/her choice under the guidance of a faculty member. The topic could be selected from any applied area: Biology, Engineering, Environmental Science, Physics, or Business, for example. **Prerequisite:** MATH 296 or MATH 316 or permission from the instructor. (3, 3T+0L)

401 ADVANCED CALCULUS I Students will undergo a rigorous study of the calculus of one variable, the definition of real numbers, sequences, limits, functions, continuity, differentiation, and integration. You will be responsible for understanding and constructing proofs. **Prerequisites:** MATH 264. (4, 4T+0L)

402 ADVANCED CALCULUS II Students will continue to study topics in advanced calculus including multivariable calculus, metric spaces, sequences, limits, compactness and continuity of metric spaces, interchanging limits and operations, series, power series, partial derivatives, implicit and inverse theorems, and multiple integrals. **Prerequisite:** MATH 401. (3, 3T+0S)

441 PROBABILITY The course will cover mathematical models for random experiments, random variables, expectation, discrete and continuous distributions, joint distributions, conditional probabilities, independence, laws of large numbers, the central limit theorem, and moment generation functions. **Prerequisite:** MATH 264. (3, 3T+0L)

464 APPLIED MATRIX THEORY The course will cover the theory of linear equations, matrix analysis of systems of linear differential equations, eigenvalues and eigenvectors, iterative methods for solving linear systems, variational principles, and generalized inverses. **Prerequisite:** MATH 314. (3, 3T+0L)

466 MATHEMATICAL METHODS IN SCIENCE AND ENGINEERING The course will cover special functions, tensor algebra, calculus of variations, integral equations, difference equations, and mathematical methods for solving differential equations. **Prerequisites:** MATH 312, 316. (3, 3T+0L)

**MECHANICAL ENGINEERING (ME)**

160L GENERAL ENGINEERING DESIGN I You will be introduced to experiments in a variety of sub-disciplines of Mechanical Engineering such as engineering mechanics, mechanics of materials, thermodynamics, heat transfer, fluid mechanics solar energy applications etc. Students will have experience in laboratory/technical report writing. (3, 2T+1L)

202 ENGINEERING STATICS You will study force analysis of particles and rigid bodies in two and three dimensions using vector algebra as an analytical tool; centroids, distributed loads, trusses, frames, friction. (Cross-listed with CE 202) **Prerequisites:** PHYS 215/L. (Fall) (3, 3T+0L)

260L ENGINEERING DESIGN II You will study the design process, project management, shop practice, CNC and rapid prototyping, design economics, and engineering ethics. **Prerequisites:** ME 160L (Fall, Spring) (3, 2T+1L)
301 THERMODYNAMICS You will study thermodynamic equilibrium, thermodynamic properties and equations of state; first and second laws of thermodynamics and their applications to engineering systems; reversibility and irreversibility, and their application to second law analysis. Prerequisites: CHEM 121/L, PHYS 216/L (Spring) (3, 3T+0L)

302 MECHANICS OF MATERIALS You will study stresses and strains in members subjected to tension, compression, torsion, shear and flexure; combined and principal stresses; Mohr’s circle construction; buckling, introduction to statistically indeterminate members. Prerequisites: ME 202. (Fall) (3, 3T+0L)

303 INTRODUCTION TO SOLAR ENERGY TECHNOLOGY As a junior- and senior-level science and engineering student, you will study the principles behind solar energy, preparing yourself for more advanced study. You will study solar energy resources on the earth, principles of heat transfer and optics, solar thermal systems, and solar photovoltaic conversion systems. Prerequisite: PHYS 216/L. (Fall) (3, 3T+0L)

306 DYNAMICS Principles of particle dynamics. Kinematics and kinetics of particles, systems of particles and rigid bodies. Prerequisite: ME 202 (Spring) (3, 3T+0S)

317 FLUID MECHANICS Fluid statics; control volume forms of continuity, momentum, and energy; pipe flow and turbomachinery You will be introduced to boundary layers and turbulent flow. Laboratory experiments and demonstrations of basic concepts. Prerequisite: ME 306 (Fall) (3, 3T+0L)

318L MECHANICAL ENGINEERING LAB You will be introduced to experiments in a variety of sub-disciplines of Mechanical Engineering such as engineering mechanics, mechanics of materials, thermodynamics, heat transfer, fluid mechanics, solar energy applications etc. Students will have experience in laboratory/technical report writing. Prerequisites: ME 301 and 317. (Fall) (3, 1T+2L)

320L HEAT TRANSFER Students will be introduced to the principles and engineering applications of heat transfer by conduction, convection and radiation. Students will learn to perform heat exchangers performance calculations and will be exposed to laboratory experiments and demonstrations of fundamental heat transfer concepts. Prerequisites: ME 301, ME 317. (4, 3T+1L)

357 MECHANICAL VIBRATIONS You will study free and forced vibrations of one and two degrees of freedom systems for both steady state and transient forcing, and vibrations of selected continuous systems and balancing. [Cross-listed with CE 357] Prerequisites: ME 306 and MATH 316. (Spring) (3, 3T+0L)

380 ANALYSIS AND DESIGN OF MECHANICAL CONTROL SYSTEMS You will study automatic control systems, using classical control methods in the frequency domain; classical stability and performance analysis methods including the root locus as well as the Bode and Nyquist diagrams. You will also study control design based on complex plane and frequency performance specifications. Prerequisite: MATH 316. (Fall) (3, 3T+0L)

390 POWER SYSTEMS You will study mechanical and electrical properties of machinery for power generation or deployment; network or grid design of distribution of power; sources of electric power and their characteristics of energy conversion efficiency, cost, and environmental impact; introduction to electric energy storage. [Cross-listed with EECE 390] Prerequisites: ME 306 and 317, and EECE 203L (Fall) (3, 3T+0L)

401 ADVANCED MECHANICS OF MATERIALS You will study state of stress and strain at a point, stress-strain relationship; topics in beam theory, such as asymmetrical bending, curved beams, and elastic foundations; torsion of non-circular cross sections; energy principles. Prerequisite: ME 306. (Spring) (3, 3T+0L)
403  **SOLAR THERMAL APPLICATIONS**  The focus of this course is on learning the fundamentals of Solar thermal engineering. Students will study thermal processes of solar energy conversion in solar engineering through topics such as solar radiation, solar harnessing equipment and systems, solar materials and properties, solar heat transfer theory, solar economics, solar applications, and solar system design.  Prerequisite: MET 421.  (3, 2T+1L)

459  **ADVANCED MECHANICAL ENGINEERING DESIGN**  Students will study common engineering materials and their properties and stress-strain analysis. Students will apply the concepts of statistical considerations and factor of safety to design machine elements such as shaft, permanent and non-permanent joints etc. from the point of view of static and fatigue strength.  Prerequisite: ME 302.  (3, 3T+0L)

490  **CAPSTONE IN MECHANICAL ENGINEERING I (WIC)**  In this project course, you will exercise your knowledge of mechanical engineering, design, and associated coursework.  (Fall)  (4, 2T+2L)

491  **CAPSTONE IN MECHANICAL ENGINEERING II**  In this project course, you will exercise your knowledge of mechanical engineering, design, and associated coursework.  Prerequisite: ME 490.  (Spring)  (4, 2T+2L)

**MECHANICAL ENGINEERING TECHNOLOGY (MET)**

201  **APPLIED MECHANICS I**  The focus of this course is on learning the fundamentals of mechanics of bodies that are in static equilibrium. Students will learn conceptual skills that will build the foundation for performing force analysis of particles and rigid bodies in both two and three dimensions. Students will learn to draw the free-body-diagram and perform force and moment analysis. Students will apply concept of force and moment and couple to solve practical problems. Students will learn to analyze distributed force systems and forces in members of trusses and frames. They will apply concept of centroids, center of mass and center of gravity to solve mechanics problems. Finally, the students will learn concepts and applications on friction.  Prerequisite: ENGR 120L  (3, 3T+0L)

301  **APPLIED MECHANICS II**  The focus of this course is on learning the mechanics of particles and rigid bodies that are in motion under the action of forces. Students will learn conceptual skills that will build the foundation for performing kinematic and kinetic analysis of particles, system of particles and rigid bodies for engineering applications. Student will be introduced to three-dimensional dynamics of rigid bodies. Students will learn to apply the concepts of work, energy and power to engineering problems.  Prerequisite: MET 201  (2, 2T+0L)

302  **STRENGTH AND PROPERTIES OF MATERIALS**  The focus of this course is on learning the fundamentals and applications of strength and properties of materials. Students will study stresses and strains in members subjected to tension, compression, torsion, and shear and bending. Concepts of combined and principle stresses, Mohr’s circle for plane stresses will be introduced. Students will learn to construct shear force and bending moment diagrams for beams. Students will analyze external and internal forces and moments in beams, bars, shafts, pressure vessels etc. Finally, students will be exposed to engineering applications involving combined loadings and to statically indeterminate members.  Prerequisite: MET 201.  (3, 3T+0L)

310  **MANUFACTURING PROCESS AND AUTOMATION**  Essentials of automated manufacturing. Overview to Computer Integrated Manufacturing (CIM). Introduction to Computer Numerical Control (CNC); Manufacturing economics and optimization of manufacturing processing systems.  Prerequisite: DRFT 100.  (3, 3T+0L)
420  **THERMAL-FLUID ENGINEERING**  The focus of this course is on learning the fundamentals of thermodynamics of systems and control volumes and the mechanic of stationary and flowing fluids from engineering perspective. Student will student thermodynamic equilibrium, thermodynamic properties and equations of state, first and second laws of thermodynamics and their applications to engineering systems, components and processes, reversibility and irreversibility, and their application to second law analysis. Students will analyze heat engines and power and refrigeration cycles. Students will study various fluid properties, fluid statics and dynamics. They will apply fundamental conservation principles (mass, energy and momentum) to fluid flow problems of engineering applications. Students will study laminar and turbulent flows. The concepts of dimensional analysis and modeling will be introduced. Prerequisite: MET 301 (4, 4T+0L)

421  **HEAT TRANSFER**  The focus of this course is on learning the fundamentals of heat transfer mechanisms and to apply them on practical engineering problems. Students will study different modes of heat transfer such as conduction, convection and radiation and apply them to solve engineering problems. They will be introduced to both steady and unsteady heat conduction problems. Students will also study different heat exchangers and analyze their performance. Prerequisite: MET 420 (3, 3T+0L)

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**MUSIC (MUS) / MUSIC COURSES FOR NON-MAJORS**

All studio courses may be repeated without penalty; however, no course may be counted more than once toward graduation requirements.

105  **MUSIC APPRECIATION**  Develops a foundation in the enjoyment and understanding of Western civilization's music through the use of recorded music and song literature; analysis of music styles and periods of development and of their relation to other subjects and activities. Prerequisite: ENG 109N. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN MUSI 1113)

108  **CLASS CLASSICAL GUITAR I**  You will the basic techniques of classical guitar, rudiments of music, and the history of classical guitar. (2, 1T+1S)

109  **CLASS FOLKLORIC GUITAR I**  Basic instruction in folk guitar. (2, 1T+1S)

111  **CLASS GUITAR I**  Basic instruction in classical guitar from beginning to intermediate level. (2, 1T+1S)

112  **CLASS VOICE I**  Basic instruction in voice from beginning to intermediate levels. (2, 1T+1S)

113  **CLASS VIOLIN**  Basic principles of playing violin: finger patterns, bowing and vibrato techniques. (2, 1T+1S)

114  **CLASS FLAMENCO GUITAR I**  Basic rhythm patterns and strums for the “Cante Chico” and an introduction to “Soleares and Bulerias of the Cante Hondo.” (2, 1T+1S)

115  **CLASS SAXOPHONE**  Basic instruction in saxophone from beginning to intermediate level. (2, 1T+1S)

116  **MARIACHI ENSEMBLE**  Beginning to intermediate instruction in Mariachi music ensemble. Prerequisite: MUS 102 and one year experience playing an instrument. (1, 0T+1S)

117  **CLASS BASS**  Basic instruction in bass from beginning to intermediate level. (2, 1T+1S)

123  **DIGITAL AUDIO PRODUCTION**  You will explore the tools and techniques of digitized sound production by focusing on a series of individual and collaborative projects. Cross-listed as FDMA 120. (4, 3T+1S)
DIGITAL MUSIC PRODUCTION TECHNIQUES  You will expand on the skills learned in Digital Audio Production and progress from the technical to the procedural and aesthetic aspects of recording. Cross-listed as FDMA 125. Prerequisite: FDMA 120 or MUS 123. (4, 3T+1S).

CLASSICAL GUITAR II  You will continue your study of classical guitar (MUS 108) with more complex music, techniques, and rhythms, and emphasis on ornamentation and presentation of classical music. Prerequisite: MUS 108. (2, 1T+1S)

CLASS GUITAR II  Continuation of MUS 111. Instruction in guitar from intermediate to advanced level. Prerequisite: MUS 111. (2, 1T+1S)

CLASS VOICE II  In this continuation of MUS 112, you will be presented with more advanced development of singing techniques. Prerequisite: MUS 112. (2, 1T+1S)

WOMEN'S ENSEMBLE  This is a class for female group vocal participation through study of choral signing techniques and choral literature. You will be required to sing parts. Prerequisite: MUS 112 or permission of instructor. (1, 0T+1S)

MIXED CHORUS  You will be provided an opportunity for group vocal participation through study of singing techniques and song literature. Prerequisite: MUS 112. (1, 0T+1S)

MEN'S ENSEMBLE  This is a class for group vocal participation for males through study of choral singing techniques and choral literature. You will be required to sing parts. Prerequisite: MUS 112 or permission of instructor. (1, 0T+1S)

GOSPEL CHOIR I  A class for group vocal participation through study of song literature and performance of gospel music. Part singing will be included. (1, 0T+1S)

CLASS FOLKLORICA GUITAR II  Intermediate-level instruction in folk music for guitar. You will study different styles of folk music, advanced chordal progressions, and musical notation requirements. Prerequisite: MUS 109. (2, 1T+1S)

MUSICA FOLKLORICA INSTRUMENTAL & VOCAL ENSEMBLE  Studies song literature and performance of traditional and modern Hispanic folk songs. You will be selected by audition by the instructor. Includes performance for special occasions on and off campus. (1, 0T+1S)

CLASS FLAMENCO GUITAR II  You will study the higher Flamenco forms such as the “Soleares, Bulerias, and Alegias.” Prerequisite: MUS 114. (2, 1T+1S)

MUSICA FOLKLORICA LA NUEVA CANCIÓN  You will become familiar with the history, vocabulary, origin, and developments of traditional instruments, songs, and traditional Spanish folkloric music. The music will be in Spanish. Prerequisite: MUS 105 and ENG 109N. (3, 3T+0S)

MUSIC COMPOSITION  You will study the basic principles of composing including techniques in melodic contour, organization, form, rhythm and meter, and modal melodic. Prerequisite: MUS 216. (3, 3T+0S)

TRADITIONS IN FLAMENCO  You will study the traditions of Flamenco music and dance from Spain, beginning with early styles to present day techniques. Prerequisite: MUS 119. (3, 3T+0S)

HISTORY OF ROCK, RAP AND POPULAR MUSIC  Examines popular music, concentrating on the U.S. after 1950. Considers precursor styles (e.g. blues, folk) and contributions to new styles of popular music. Discusses the evolution of rap and rock from 1960 to the present. Also examines sub-genres, such as House music, Heavy Metal, etc. Prerequisite: ENG 109N. (Fall, Spring) (3, 3T+0S)
MUSIC COURSES FOR NON-MAJORS AND MAJORS / MUSIC COURSES FOR MAJORS ONLY

250 MUSIC FOR THE CLASSROOM TEACHER This is a multifaceted music skills course to assist Elementary Education majors in preparing and teaching music in their classrooms. No previous musical training is necessary. Prerequisite: ENG 109N. (3, 2T+1S)

257 GOSPEL CHOIR II A continuation of Gospel Choir I (MUS 217) with group vocal participation through study of song literature and performance of gospel music. Part singing will be included. (1, 0T+1S)

MUSIC COURSES FOR NON-MAJORS AND MAJORS

110 CLASS PIANO I Introduces the keyboard, music reading in the treble and bass clefs, basic theory and keyboard harmony, technical patterns, and improvisation. Studies easy classical and pop repertoire. Designed for music majors and non-majors with no keyboard experience. (Fall, Spring, Summer) (2, 1T+1S)

221 CLASS PIANO II Continuation of MUS 110. Prerequisite: MUS 110 (Fall, Spring, Summer) (2, 1T+1S)

230 CLASS PIANO III Continuation of MUS 221. Prerequisite: MUS 221 (Fall, Spring, Summer) (1, 0T+1S)

321 CLASS PIANO IV Continuation of MUS 230. Prerequisite: MUS 230 or test. (Fall, Spring, Summer) (1, 0T+1S)

MUSIC COURSES FOR MAJORS ONLY

100 AURAL SKILLS I Study of sight singing and dictation of diatonic melodies in major and minor keys (treble, alto, and bass clefs). Identification of scale types, intervals, triads, and dominant seventh chords. Prerequisite: MUS 101 or test out. Co-requisite: MUS 150. (Fall only) (1, 1T +0S)

101 BASIC MUSIC THEORY Introduces tools used in notating, performing, creating and listening to music. Required course for all Music Majors who fail the entrance music theory examination. (Fall only). (3, 1T+2S)

104 MAJOR ENSEMBLE I Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 101 or test out. (1, 0T+1S)

106 AURAL SKILLS II Students will study sight singing in major and minor keys (treble, alto, tenor and bass clefs). Included dictation of one and two-voice examples. Detection of pitch and rhythmic errors in performed examples. Harmonic dictation using vocabulary from Music Theory II, MUS 122. Prerequisite: MUS 100. Co-requisite: MUS 122. (Spring). (1, 1T+0S)

120 MAJOR ENSEMBLE II Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 104 (1, 0T+1S)

125 HISTORY OF JAZZ I You will examine the history of jazz from its origins through 1950. You will learn to identify major styles and performers and to describe the elements of each style. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN MUSI 1213

126 HISTORY OF JAZZ II You will continue your study of the history of jazz, covering bebop (c. 1950) through the present. You will learn to recognize and describe the major styles in jazz, the most important proponents of each style, and the musical elements that determine each style. (3, 3T+0S)

131 INTRODUCTION TO MUSIC Introduces the study of music including bibliographic, listening, score reading, critical reading, and writing skills; music terminology; a survey of
selected music genres (symphonic and chamber music); and building of general music repertory. (3, 3T+0S)

135 GROUP RECITAL I In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

136 GROUP RECITAL II In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

137 GROUP RECITAL III In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

138 GROUP RECITAL IV In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

140 APPLIED LESSONS I Applied private lessons on your instrument. (Fall, Spring, Summer) (2-4 credits of Performance Music = Maximum course enrollment of 1)

141 APPLIED LESSONS II Continuation of MUS 140. Prerequisite: MUS 140. (Fall, Spring, Summer) (2-4 credits. Maximum course enrollment of 1)

150 MUSIC THEORY I Introduces the fundamentals of tonal harmony and voice leading, focusing on four-voice writing and analysis of excerpts from music literature. Prerequisite: MUS 101 or test out. Co-requisite: MUS 100. (Fall). (3, 3T+0S)

151 MUSIC THEORY II Continuation of Music Theory I, MUS 150. Covers principles of harmony and voice leading, using all common diatonic triads and seventh chords. Introduces modulation, contrapuntal chord functions, and elementary structural analysis of excerpts from music literature. Prerequisite: MUS 150. Co-requisite: MUS 106. (Spring). (3, 3T+0S)

200 AURAL SKILLS III Continuation of MUS 106. Studies sight-singing of chromatic melodies in major and minor keys (in four clefs). Includes dictation of one-through three-voice examples. Studies harmonic dictation using vocabulary from MUS 151. Prerequisite: MUS 106. Co-requisite: MUS 224 (Fall). (1, 1T+0S)

204 JAZZ KEYBOARD SKILLS I You will learn to realize jazz harmonies at sight from lead sheets or other progressions. Prerequisite: MUS 101 or test out. (3, 3T+0S)

206 AURAL SKILLS IV Continuation of MUS 200. Studies sight singing of chromatic and atonal melodies. Includes dictation of one through four voice examples. Identifies sonorities studied in Music Theory IV. Detection of pitch and rhythmic performance errors. Prerequisite: MUS 200. Co-requisite: MUS 225 (Spring). (1, 1T+0S)

224 MUSIC THEORY III Continuation of MUS 151 Music Theory II. Reviews melodic and rhythmic figuration. Covers dissonance and chromaticism, including modal mixture, seventh chords with added dissonance, neapolitan sixth chord, and augmented sixth chords. Provides structural analysis of musical excerpts. Co-requisite: MUS 200. (Fall) (3, 3T+0S)

228 JAZZ KEYBOARD SKILLS II In this continuation of MUS 204, you will learn to realize jazz harmonies at sight from lead sheets or other progressions. Prerequisite: MUS 204. (3, 3T+0S)

234 MUSIC THEORY IV Continuation of MUS 224. Focuses on advanced chromaticism including modal mixture, altered dominants, voice leading, and chromatic harmony in larger
contexts. Also examines impressionism, neoclassicism, jazz and contemporary music. 
Prerequisite: MUS 224; Co-requisite: MUS 206. (Spring) (3, 3T+0S)

241 APPLIED LESSONS III Applied private lessons on your instrument. Prerequisite: MUS 141 (Fall, Spring, Summer) (2-4 credits of Performance Music. Maximum course enrollment of 1)

242 APPLIED LESSONS IV Continuation of MUS 241, Prerequisite: MUS 241 (Fall, Spring, Summer) (2-4 credits of Performance Music. Maximum course enrollment of 1)

243 ENSEMBLE III Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 120 (1, 0T+1S)

244 ENSEMBLE IV Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 243 (1, 0T+1S)

249 CHAMBER MUSIC I Small group performance. (Fall, Spring, Summer) (1, 0T+1L) (Minimum enrollment to make: 2)

255 NMMC BIG BAND Jazz Ensemble is a performance geared course to which students will rehearse and perform standard/contemporary repertoire for large jazz ensemble. Students are expected to listen to jazz, transcribe and practice outside of the class in order for the group to have productive rehearsals together. Special emphasis is given to interactive playing, improvising, and developing appropriate stylistic competency and techniques. Student will have the opportunity to rehearse/perform with the top musicians in the area on their given instrument. Audition required. (1, 0T+1S)

258 BLUES/ROCK BAND Blues/Rock Band is a performance geared course to which students will rehearse and perform blues/rock repertoire. Students are expected to listen to blues and rock, transcribe and practice outside of class in order for the group to have productive rehearsals together. Special emphasis is given to interactive playing, improvising, and developing appropriate stylistic competency and techniques. Students will have the opportunity to perform both on and off campus. Audition required. (1, 0T+1S)

291 RECITAL Student will perform 30 minutes of music before a panel of faculty and the general public. Exit requirement of the AA degree. Co-requisite: MUS 242 (Fall, Spring, Summer) (1, 0T+1S)

305 CONTEMPORARY THEORY I Presents the grammar and syntax of jazz and contemporary music. Acquaints students with the language of jazz improvisation and various jazz/contemporary styles. Aural skills are developed through an in-depth analytical study of jazz/contemporary forms and performers through dictation, analysis and identification. Course fulfills upper division Music Theory elective requirement. Prerequisite: MUS 234 (Fall) (3, 3T+0S)

306 CONDUCTING I Introduces conducting and rehearsal techniques. Prerequisite: MUS 206. Co-requisite: Participation in appropriate ensemble. (Fall) (3, 3T+0S)

307 CONDUCTING II Introduces more advanced conducting and rehearsal techniques. Prerequisite: MUS 306 Co-requisite: Participation in appropriate ensemble. (Spring) (3, 3T+0S)

310 WESTERN MUSIC HISTORY I (WIC) Surveys Western art music with stylistic analysis of representative works from all major periods through the Baroque. Prerequisite: MUS 234 (Fall) (3, 3T+0S)

313 ENSEMBLE V Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 244. (1, 0T+1S)

314 ENSEMBLE VI Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 313. (1, 0T+1S)
MUSIC COURSES FOR MAJORS ONLY

322 MUSIC THEORY V Surveys tonal analytical techniques, covering works from the 18th and 19th centuries. Fulfills upper-division Music Theory elective requirement. Prerequisite: MUS 234 (Fall) (3, 3T+0L)

323 MUSIC THEORY VI Introduces post-tonal 20th century analysis as well as 16th and 18th century counterpoint in analysis and written examples. Fulfills upper-division Music Theory elective requirement. Prerequisite: MUS 322 (Spring) (3, 3T+0L).

324 WESTERN MUSIC HISTORY II Surveys Western art music with stylistic analysis of representative works from all major periods after the Baroque. Prerequisite: MUS 310 (Spring) (3, 3T+0S)

325 CONTEMPORARY THEORY II Continuation of MUS 305, study of jazz styles post cool and bop to current styles of composition and theories that underlie them. Students write short representative exercises in recent musical idioms as well as transcribing and analyzing works. Prerequisite: MUS 305 Course fulfills Music Theory II Elective Requirement. Offered Spring only. (3, 3T+0S)

340 APPLIED LESSONS V Applied private lessons on your instrument. Prerequisite: MUS 242 (Fall, Spring, Summer) (2-4 credits of Performance Music. Maximum course enrollment of 1)

341 APPLIED LESSONS VI Continuation of MUS 340. Applied private lessons on your instrument. Prerequisite: MUS 340. (Fall, Spring, Summer) (2-4 credits of Performance Music. Maximum course enrollment of 1)

349 CHAMBER MUSIC II Small group performance. Prerequisite: MUS 249 (Fall, Spring, Summer) (1, 0T+1L) (Minimum enrollment to make: 2)

351 CONTEMPORARY IMPROVISATION I Develops skills in jazz and contemporary improvisation through practical application of chord/scale relationship, transcription, repertoire and analysis. Open to all instruments. Prerequisite: MUS 305 (Fall, Spring) (3, 3T+0S)

352 CONTEMPORARY IMPROVISATION II Expands upon the material presented in Contemporary Improvisation I. Deals with repertoire of the jazz common practice period and beyond. Open to all instruments. Course fulfills Chamber Music Requirement. Prerequisite: MUS 351 (Fall, Spring) (2, 2T+0S)

355 NMMC BIG BAND Jazz Ensemble is a performance-geared course to which students will rehearse and perform standard/contemporary repertoire for large jazz ensemble. Students are expected to listen to jazz, transcribe and practice outside of the class in order for the group to have productive rehearsals together. Special emphasis is given to interactive playing, improvising, and developing appropriate stylistic competency and techniques. Student will have the opportunity to rehearse/perform with the top musicians in the area on their given instrument. Audition required. (1, 0T+1S)

358 BLUES/ROCK BAND Blues/Rock Band is a performance geared course to which students will rehearse and perform blues/rock repertoire. Students are expected to listen to blues and rock, transcribe and practice outside of class in order for the group to have productive rehearsals together. Special emphasis is given to interactive playing, improvising, and developing appropriate stylistic competency and techniques. Students will have the opportunity to perform both on and off campus. Audition required. (1, 0T+1S)

365 PEDAGOGY Analyzes the pedagogical techniques and skills for teaching your instrument/voice/instrument family in both the private studio and class setting. Prerequisite: MUS 242. Co-requisite: MUS 341 (Spring) (3, 3T+0S)
MUSIC COURSES FOR MAJORS ONLY

366 GROUP RECITAL V In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

367 GROUP RECITAL VI In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

381 MUSIC TECHNOLOGY Topics include use of MIDI, music notation software, and recording techniques. Prerequisite: MUS 234 (Fall, Spring, Summer) (3, 3T, +0L)

391 JUNIOR RECITAL A public half recital played by the student before an audience and two or more music faculty. Repertoire will be selected with applied music instructor. Prerequisite: MUS 242 (Fall, Spring, Summer) (1, 1T, +0L)

403 PERFORMANCE PRACTICE This course is intended to provide instruction in individual and ensemble performance practice. Topics include; psychology of music performance, rehearsal techniques, time management, and practice techniques. Students are exposed to relative articles, text, videos, and interactive examples. (Fall, Spring, Summer) (3, 3T+0S)

404 JAZZ COMBO I This course consists of rehearsals of graded pieces, arranged for the particular available instruments in the band. The NNMC music program will accept other types of instruments in the band. All musicians are welcome. Acceptance in the band will follow a previous audition. Prerequisite: MUS 152. (3, 0T+3S)

405 JAZZ ARRANGING I Arranging for the Small Ensemble. This course is designed to present and develop jazz arranging and compositional principles of Small group writing for three to four horns and rhythm section. Prerequisites: MUS 325 or consent of Music Program Director and the instructor. (3, 3T+0S)

406 JAZZ ARRANGING II Arranging for the Large Ensemble. This course is designed to present and develop jazz arranging and compositional principles for the large ensemble. (3, 3T+0S)

407 MUSIC LITERATURE In-depth investigation of major works for your instrument or instrument family for both solo and ensemble, as well as surveying chamber music and concerti. Prerequisite: MUS 324 (Spring) (3, 3T+0L)

410 ENSEMBLE VII Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 314. (1, 0T+1S)

411 ENSEMBLE VIII Musical performance in large and small group contexts, both vocal and instrumental. Prerequisite: MUS 410. (1, 0T+1S)

416 GROUP RECITAL VII In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

417 GROUP RECITAL VIII In the Group Recital class, all applied music students meet in a group setting to perform at various intervals during the semester, and to attend clinics, lectures and master classes by guest artists. Attendance is required. (0).

423 JAZZ COMBO II This course consists of rehearsals of graded pieces, arranged for the particular available instruments in the band. The NNMC music program will accept other types of instruments in the band. All musicians are welcome. Acceptance in the band will follow a previous audition. Prerequisite: MUS 404. (3, 0T+3S)

424 MUSIC HISTORY TOPICS Course topic will change each semester, but may include: World Music, Women Composers, Ethnomusicology, History of Opera, Latin American
Music, Native American Music, and American Music History. **Prerequisite:** MUS 310 (Fall, Spring, Summer) (3, 3T+0S)

**425 CONTEMPORARY MUSIC HISTORY I** Studies the American art form of jazz music from its origins to the present, including the various traditions, practices, historical events and people most important to its evolution. **Prerequisite:** MUS 234 and MUS 324. Fulfills Music History elective requirement. (Fall) (3, 3T+0S)

**426 CONTEMPORARY MUSIC HISTORY II** Explores major trends and developments in jazz, rock and other contemporary genres, also focusing on specific compositions and performances. **Prerequisite:** MUS 425. (Spring) (3, 3T+0S)

**427 NEW MEXICAN MUSIC HISTORY** Presents the history, vocabulary, origin and development of New Mexican musical genres up to the present day, including but not limited to: folkloric music, Flamenco, Mariachi and Native American Music. **Prerequisite:** MUS 324. (Fall, Spring) (3, 3T+0S)

**428 NEW MEXICAN MUSIC LITERATURE** Explores the music literature and methods of teaching and performing the music of New Mexico, including folkloric, Flamenco, Mariachi and Pueblo styles. **Prerequisite:** MUS 427. (Fall, Spring) (3, 3T+0S)

**429 JAZZ HISTORY** This course will serve as an overview of jazz history; from its origins in New Orleans to the present. The major style periods to be covered include; early jazz, swing, bebob, cool, hard bop, free jazz, jazz-fusion, and contemporary trends. Students will learn aural characteristics of the various styles and period and be able to recognize and identify recordings of key jazz musicians throughout history. (3, 3T+0S)

**433 CONTEMPORARY ARRANGING AND SCORING** Practical Problems, creative arranging and scoring for various instrumental groups. **Prerequisite:** MUS 234 (Fall) (3, 3T, +0L)

**435 INSTRUMENTATION AND ORCHESTRATION** Introduces and studies the instruments of the orchestra and problems of scoring for diverse choirs, full orchestra and band. Studies advanced orchestration and arranging techniques through score analysis and student projects. **Prerequisites:** MUS 206 and MUS 234 (Fall, Spring) (3, 3T+0S)

**436 TRANSCRIPTION AND COMPOSITION** Introduction to the craft of musical composition and transcription with analysis, writing and transcription in various styles. **Prerequisites:** MUS 206 and MUS 234 (Spring) (3, 3T+0L)

**440 APPLIED LESSONS VII** Applied private lessons on your instrument. **Prerequisite:** MUS 341 (Fall, Spring, Summer) (2-4 credits of Performance Music. Maximum course enrollment of 1)

**441 APPLIED LESSONS VIII** Applied private lessons on your instrument. **Prerequisite:** MUS 440 (Fall, Spring, Summer) (2-4 credits of Performance Music. Maximum course enrollment of 1)

**449 CHAMBER MUSIC III** Small group performance. **Prerequisite:** MUS 349 (Fall, Spring, Summer) (1, 0T, +1L) (Minimum enrollment to make: 2)

**450 DICTION FOR SINGERS** Designed for the understanding of lyric diction, the international phonetic alphabet, and its application to classical and contemporary singing in Italian, Latin, Spanish, German, French and English. **Prerequisite:** MUS 140 (Fall, Spring) (3, 3T+0L).

**491 SENIOR RECITAL** A public recital played by the student before an audience and two or more music faculty. Repertoire will be selected with applied music instructor. **Prerequisite:** MUS 391 Junior Recital. (Fall, Spring, Summer) (2, 2T+0L)
NATURAL RESOURCES (NR)

101  SOILS  Study of soil composition and classification; relationship of soil to plant growth and animal health; use of fertilizers, soil erosion and its control; world population growth and soil resources. Co-requisite: NR 101L. (3, 3T+0L)

101L  SOILS LABORATORY  Soil morphology and development. Field analysis and characterization of soil profiles. Impact of weather, drainage, agricultural, industrial, and man-made factors on edaphic characterization. Co-requisite: NR 101. (1, 0T+1L)

102  WATER MANAGEMENT  New Mexico and federal water laws, various methods of irrigation; livestock watering methods, water diversion, and soil erosion control. (3, 3T+0L)

103  BOTANY OF FOREST AND RANGE  Study of botany relationships involved when any tract of land is managed for both forage and timber crops. (3, 3T+0L)

NURSING (NURS)

When participation is required at a clinical setting, students are responsible for their own transportation. Clinical courses are graded on a Credit/No Credit basis except for NURS 114L where a letter grade is assigned.

100  NURSE AIDE  This course focuses on the acquisition of knowledge and skills necessary to serve in the capacity of nurse aide. Successful completion of the nurse aide course prepares the student for The New Mexico Certification Exam for Nurse Aide. Prerequisites: ENG 108N and PD 108N; Co-requisite: NURS 100L. (Fall, Spring, Summer) (4, 4T+0L).

100L  NURSE AIDE LAB  This course focuses on the application of nurse aide skills in simulated lab and clinical settings. Grades are awarded on a CR/NC basis. Co-requisite: NURS 100. (Fall, Spring, Summer) (1, 0T+1L).

106  PHARMACOLOGY  This course provides an introduction to the principles of pharmacology, including: pharmacokinetics, pharmacodynamics, medication interactions and potential adverse medication reactions. Emphasis is placed on drug classifications and nursing care related to the safe administration of medication to patients across the life span. Prerequisite: Admission to the Nursing Program. (Fall) (3, 3T+0L).

113  NURSING FUNDAMENTALS  This course provides an introduction to nursing and roles of the nurse as well as profession related and patient care concepts. Emphasis is placed on the nursing process, knowledge and skills needed to provide safe, quality care. The theoretical foundation for basic assessment and nursing skills is presented. Prerequisite: Admission to the Nursing Program. Co-requisite: NURS 113L. (Fall) (4, 4T+0L).

113L  NURSING FUNDAMENTALS CLINICAL  The student is given an opportunity to demonstrate the skills acquired in NURS 113 in a skills laboratory setting. Pre-requisite: Admission to the Nursing Program. Co-requisite: NURS 113. (Fall) (2, 0T+2L).

114L  INTRODUCTION TO HEALTH ASSESSMENT  This course provides the framework for preparing students to perform comprehensive health assessments on patients across the lifespan. Emphasis is placed on taking a thorough nursing history, performing physiological, psychological, sociological, cultural, and spiritual assessments, as well as identification of stressors and health risks. Laboratory experiences provide an opportunity to practice assessment skills on patients across the lifespan in a variety of settings. Prerequisite: Admission to the Nursing Program. (Fall) (2, 0T+2S).

119  ROLE TRANSITION/PRACTICAL NURSE  This course examines the role of the vocational prepared nurse in today's health care systems, including information specific to the discipline of practical nursing and the NCLEX-PN exam; the role and scope of the
practice of the practical nurse related to the nursing process, management of care, legal responsibility, and accountability. **Co-requisite:** NURS 217/L, NURS 218/L, NURS 225/L. *(Fall) (2, 2T+0L)*

**125 MEDICAL/SURGICAL NURSING I** This course focuses on the care of adult clients with health alterations that require medical and/or surgical intervention. Emphasis is placed on the care of clients with alterations in selected body functions. Concepts of patient-centered care, cultural sensitivity, informatics, safe practice, and professionalism are integrated throughout the course. **Prerequisites:** NURS 106, NURS 113/L, NURS 114L. **Co-requisite:** NURS 125L. *(Spring) (3, 3T+, 0L)*

**125L MEDICAL/SURGICAL I CLINICAL** Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to adults in a variety of settings. **Prerequisite:** NURS 106, NURS 113/L, NURS 114L. **Co-requisite:** NURS 125. *(Spring) (3, 0T+, 3L)*

**214 PSYCHIATRIC/MENTAL HEALTH NURSING** This course focuses on the care of patients across the lifespan experiencing cognitive, mental and behavioral disorders. Emphasis is placed on management of patients facing emotional and psychological stressors as well as promoting and maintaining the mental health of individuals and families. Concepts of crisis intervention, therapeutic communication, anger management, and coping skills are integrated throughout the course. The community as a site for care and support services is addressed. **Prerequisites:** NURS 106, NURS 113/L, NURS 114L. **Co-requisite:** NURS 214L. *(Spring) (2, 2T+0L)*

**214L PSYCHIATRIC/MENTAL HEALTH NURSING CLINICAL** Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to patients in selected mental health settings. **Prerequisite:** NURS 106, NURS 113/L, NURS 114L. **Co-requisite:** NURS 214. *(Spring) (1, 0T+, 1L)*

**217 MATERNAL/NEWBORN NURSING** This course provides an integrative, family-centered approach to the care of mothers and newborns. Emphasis is placed on normal and high-risk pregnancies, normal growth and development, family dynamics and the promotion of healthy behaviors in patients. **Prerequisite:** NURS 2. **Co-requisite:** NURS 217L. *(Fall) (2, 2T+, 0L)*

**217L MATERNAL/NEWBORN CLINICAL** Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to mothers and newborns in selected settings. **Prerequisite:** NURS 2. **Co-requisite:** NURS 217L. *(Fall) (1, 0T+, 1L)*

**218 PEDIATRIC NURSING** This course provides an integrative, family-centered approach to the care of children. Emphasis is placed on normal growth and development, family dynamics, common pediatric disorders and the promotion of healthy behaviors in patients. **Prerequisite:** NURS 2. **Co-requisite:** NURS 218L. *(Fall) (2, 2T+, 0L)*

**218L PEDIATRIC NURSING CLINICAL** Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to children in selected settings. **Prerequisite:** NURS 2. **Co-requisite:** NURS 218L. *(Fall) (1, 0T+, 1L)*

**225 MEDICAL SURGICAL NURSING II** This course focuses on the care of adult clients with complex medical/surgical health problems. Emphasis is placed on helping clients and their families cope with alterations in body functions. Concepts of pharmacology, health promotion and education, evidence based practice, and interdisciplinary collaboration will be integrated throughout the course. **Prerequisite:** NURS 2. **Co-requisite:** NURS 225L. *(Fall) (3, 3T+, 0L)*.
225L MEDICAL SURGICAL NURSING II CLINICAL Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings. Prerequisite: NRS 2. Co-requisite: NURS 225. (Fall) (3, 0T, +3L).

235 MEDICAL SURGICAL NURSING III This course focuses on advanced concepts of nursing care as they relate to patients across the lifespan with complex, multisystem alterations in health. Emphasis is placed on implementing time management and organizational skills while managing the care of patients with multiple needs and collaborating with the interdisciplinary team. Complex clinical skills, as well as priority setting, clinical judgment, and tenets of legal and ethical practice, are integrated throughout the course. Prerequisite: NURS 225/L, NURS 217/L, NURS 218/L. Co-requisite: NURS 235L. (Spring) (3, 3T, +0L).

235L MEDICAL SURGICAL NURSING III CLINICAL Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings. Experiences that facilitate entry into practice are included in this practicum. Prerequisite: NURS 225/L, NURS 217/L, NURS 218/L. Co-requisite: NURS 235. (Spring) (3, 0T, +3L).

240 ROLE TRANSITION/RN This course facilitates the transition of the student to the role of a professional nurse in the microsystem of a work unit. Emphasis is placed on contemporary issues and management concepts, as well as developing the skills of delegation, conflict management, and leadership. Legal and ethical issues are discussed with a focus on personal accountability and responsibility. Standards of practice and the significance of functioning according to state regulations and statutes are analyzed. Prerequisite: NURS 217/L, NURS 218/L, NURS 225/L. (Spring) (2, 2T+ 0L).

244 PATHOPHYSIOLOGY This course focuses on the altered processes of human physiology. An emphasis is placed on exploring changes of biological process of the body and the effects on homeostasis. Alterations of health problems are studied along with the associated clinical manifestations and treatments. Prerequisite: NURS 106, NURS 113/L, NURS 114L. (Spring) (4, 4T,0L).

343 PATHOPHYSIOLOGY I This first of a two-part course addresses pathophysiological responses and adaptation of the physical body to an insult. Analysis of pathological alterations in health at the cellular and systems level and implications for nursing care are emphasized. Prerequisite: BIOL 238/L. (3, 3T+0L)

344 PATHOPHYSIOLOGY II This second of a two-part course continues to address pathophysiological responses and adaptation of the physical body to an insult. Students focus on multi-system interaction of the body to an illness or injury. The pathophysiologival basis of addictions and behavioral disorders is explored. While the traditional biologic basis for disease is emphasized, students are also introduced to the biology of belief. Prerequisite: BIOL 238/L. (3, 3T+0L)

400 NURSING IN TRANSITION This course examines the role of the baccalaureate prepared nurse in today’s health care systems. Historic, contemporary and future roles of the nurse are addressed. Skills in scholarly exposition and the use of technology are developed. Prerequisite: Admission to the program. (2, 2T+0L)

401 INTEGRAL NURSING THEORY The Theory of Integral Nursing and Holistic Nursing Theories are explored. The concept of praxis is introduced. Florence Nightingale’s legacy and philosophical foundation are included. Students develop skills related to concepts such as self-awareness, self-care, relationship-centered care, nurse as environment and reflective practice. The use of conscious intention is emphasized. Pre- or Co-requisite: NURS 400. (3, 3T+0L)
410 AN INTEGRATED APPROACH TO EVIDENCE-BASED PRACTICE  This course examines research methodologies utilized in nursing research. Emphasis is on utilization of research findings to establish evidence-based nursing interventions. Students analyze research findings aimed at selected health concerns. Students explore definitions of evidence-based practice and examine how worldviews and theories influence research. Prerequisites: MATH 145; Pre or Co-requisite: NURS 400 and NURS 401. (3, 3T+0L)

420 INTEGRAL HEALTH ASSESSMENT  This course emphasizes development of skills in health assessment of (allopathic) human systems. Alternative systems (i.e., Ayurvedic, Native American, Oriental Medicine, and Intuitive) are introduced. Skills in interviewing, history taking, physical examination, and documentation and use of assessment data in planning care are developed. Laboratory and selected clinical settings are used to practice skill development. The Theory of Integral Nursing is explored as a model to frame data collection, organization, and synthesis into a cohesive whole. Pre or Co-requisites: NURS 400 and NURS 401. (3, 2T+1L)

430 COMPLEMENTARY AND ALTERNATIVE THERAPIES IN NURSING  This course provides an introduction to evidence-based complementary and alternative approaches to health care. Students acquire knowledge related to alternative and complementary healing modalities that can be incorporated into professional nursing practice and self-care practices. Students experience and develop beginning skills in the provision of CAM modalities as they interact with practitioners in selected clinical settings. Pre or Co-requisite: NURS 400 and NURS 401. (3, 2T+1L)

440 HEALTH ISSUES, POLICY AND POLITICS IN HEALTH CARE (WIC)  This course emphasizes empowering students with knowledge, skills, and attitudes to effect change in health policy to improve health care delivery. Students analyze contemporary health care issues of concern to nursing and learn strategies for effective involvement in policy-making decisions and policy implementation. Students examine work environments and the impact of organizational systems on the quality of care. Students apply the Theory of Integral Nursing to a current health policy issue in a position paper expressed orally to a group. Pre or Co-requisite: NURS 400 and NURS 401. (3, 3T+0L)

450 COMMUNITY AND GLOBAL HEALTH I  This first of a 2-part course provides an overview of contemporary community health nursing practice. The influence of culture on healthcare beliefs and practices is emphasized. Self-care is linked to population health. Health problems of selected populations within New Mexico are examined. Public Health Nursing Competencies are linked with the Theory of Integral Nursing to form the basis for student’s learning experiences. Pre or Co-requisites: NURS 400 and NURS 401, and strongly suggest NURS 410. (3, 3T+0L)

451 COMMUNITY AND GLOBAL HEALTH II  This second of a 2-part course examines global health issues in relationship to local, regional, and international nursing practice. Self-care is linked to global health. In this course students select and focus upon a global health issue relevant to local community nursing practice. A service learning project based upon the selected issue provides the focus of clinical experience. Prerequisite: NURS 450. (4, 3T+1L)

460 INTEGRAL COMMUNICATION AND TEACHING  This course examines communication techniques, coaching, and teaching strategies, to enhance and facilitate cognitive and behavioral change. Students demonstrate principles of Integral Health Coaching, Motivational Interviewing, and Non-Violent Communication. Students implement an evidence-based service learning teaching project. Prerequisite: NURS 401. (2, 2T+0L)
### 470 TRANSFORMATIONAL LEADERSHIP IN NURSING
This course focuses on the principles of transformational leadership as applied to the nurse leader at the bedside, within an organization, in the community, and in the profession. The student is introduced to Complexity Science, Appreciative Inquiry, and Emotional Intelligence. Self-care is promoted as a leadership quality. Career advancement through lifelong learning is emphasized. **Prerequisite:** NURS 401. (4, 4T+0L)

### 480 INTEGRAL NURSING CAPSTONE COURSE
This capstone course emphasizes reflection, integration, and synthesis of concepts from previous courses. It is primarily a self-directed course, and is based upon the creation of a senior portfolio which demonstrates learning in cognitive, affective, and psychomotor domains. The portfolio is designed to demonstrate evidence of mastery of program objectives and serves as an assessment of student learning. The portfolio includes evidence of ability to conduct integral health assessments and evidence of ability to develop and implement service learning projects. Students include evidence of skill development in the use of complementary/alternative therapies in nursing practice. A reflective essay and a plan for continued professional and personal development is included in the portfolio. **Pre- or Co-requisites:** All Nursing courses. (2, 2T+0L)

### OFFICE ADMINISTRATION (OA)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>INTRODUCTION TO KEYBOARDING</td>
<td>Introduction to basic keyboarding skills on the letters of the alphabet, numbers, and symbols. Emphasizes speed and accuracy. This course is for students with no previous instruction in keyboarding. (1, 1T+S)</td>
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<tr>
<td>115</td>
<td>RECORD/INFORMATION MANAGEMENT</td>
<td>The purpose of this course is to introduce individuals to the essentials of records and recordkeeping systems in organizations. The impact of electronic records will be particular focus. In this course, records management (RM) includes both traditional records management plus challenges by modern information communication technologies (ICT). Students will also review software tools and technologies for managing records in the modern organization. (Fall) (3, 3T+0S)</td>
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<td>3</td>
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<tr>
<td>117</td>
<td>BUSINESS MATH</td>
<td>This course teaches basic math skills for financial situations. A student will learn how to calculate payroll, asset valuation, interest and retail evaluations. (3, 3T+0S)</td>
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<td>3</td>
</tr>
<tr>
<td>118</td>
<td>PROFESSIONAL DEVELOPMENT</td>
<td>Promotes self-understanding, self-management, personal and professional communication and appearance, leadership, personal and interpersonal relationships, positive attitudes, and goal setting. (3, 3T+0S)</td>
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<tr>
<td>135</td>
<td>INTRODUCTION TO ACCOUNTING</td>
<td>Studies basic accounting principles and conceptual framework. Places heavy emphasis on the accounting model. (3, 3T+0S)</td>
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<tr>
<td>151</td>
<td>INTRODUCTION TO MS PUBLISHER</td>
<td>Introduction to electronic desktop publishing, focusing on how to design and edit publications for use in a variety of personal and business applications. (1, 1T+0S)</td>
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<tr>
<td>236</td>
<td>ADMINISTRATIVE PROCEDURES</td>
<td>You will study office procedures, technology, records management, human relations, ethics, and telecommunications. <strong>Prerequisites:</strong> OA 115, ENG 111, and BA 200. (Spring) (3, 3T+0S)</td>
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<tr>
<td>240</td>
<td>INTRODUCTION TO MICROSOFT PROJECT</td>
<td>This course teaches the basics of using Microsoft Project to help you manage projects, keep track of deadlines, resources, task distribution, constraints and contingencies. This is an inter-disciplinary course designed to assist in meeting project deadlines in all fields of study. (Fall) (3, 3T+0S)</td>
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<tr>
<td>261</td>
<td>DESKTOP PUBLISHING MS PUBLISHER</td>
<td>Introduction and application of desktop publishing concepts using Microsoft Publisher in the Windows environment to create flyers,</td>
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</tbody>
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newsletters, reports, brochures, resumes, and other publications using page-layout software.

(3, 3T+0S)

266 MICROSOFT OFFICE SPECIALIST TRAINING  This course will focus on advanced training in the use of the Microsoft Suite of software applications (Word, Excel, PowerPoint, and Access) in preparation to take the Microsoft Office User Specialist Exam (MOUS).  
Prerequisites: BCIS 225, or BCIS 226 or, BCIS 249 or BCIS 265.  (Spring)  (1, 1T+0S).

PERSONAL DEVELOPMENT (PD)

108N BASIC COMPUTATIONAL SKILLS  Develops proficiency in basic mathematical concepts, including addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals. You will also study the use of percentages, ratios, solving for one unknown (pre-algebra), and determining simple geometric areas. Math concepts are presented in a simple, logical, and applied way to prepare you for MATH 100N or above. CR/NC  (Fall and Spring)  (4, 3T+1L).

121N READING AND WRITING FOR COLLEGE SUCCESS  This course focuses on the skills necessary to succeed in college courses, including skills in critical reading and writing, critical thinking, study strategies, computer literacy, time management, and goal setting. Students will also be exposed to the services offered by essential campus resources and learn strategies to best utilize those resources for academic success.  (4, 4T+0S).

120 BECOMING A MASTER STUDENT  Through concentrating on study skills, learning styles, goal setting, and developing critical thinking and writing skills you will be given an opportunity to develop strategies which you can adopt and modify for lifelong learning and academic, personal, and professional success.  (1-3, 1-3T+0S).

PHILOSOPHY (PHIL)

Note: All 100 and 200 level courses have a prerequisite of ENG 109N or an adequate score on the Course Placement Evaluation.

110 INTRODUCTION TO PHILOSOPHICAL PROBLEMS  Analysis of problems in values, knowledge, and reality in relationship to social, political, and religious philosophies.  (3, 3T+0S)  Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN PHIL 1113).

111 HISTORY OF PHILOSOPHY  Surveys the history of philosophical thought from the ancient Greeks to the present.  (3, 3T+0S).

220 ETHICS  Survey of the development of morality, principles of individual and social behavior, and past and present ethical issues.  (3, 3T+0S)  Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Fine Arts (NMCCN PHIL 2113.

250 CRITICAL THINKING  You will develop skills for understanding and analyzing arguments in context by practicing the tools of traditional logic, including categorical logic and the identification of logical fallacies, through devoting attention to examining selections from academic texts from various disciplines. Your in-class work will be exercise intensive so as to learn critical thinking as a skill foundation for academic excellence.  Prerequisite: ENG 111.  (3, 3T+0S).

300 COMPARATIVE METAPHYSICS  You will study texts from various cultures which show the metaphysical principles or assumptions regarding such matters as: whether time is linear or cyclical, and whether human beings are fundamentally individual or social.  Prerequisite: PHIL 250.  (Fall)  (3, 3T+0S).
364 GREAT WORKS OF WESTERN PHILOSOPHY You will explore major works from the Western philosophical tradition, using varied texts based on student and instructor interest. You may take this course twice for credit (with permission of program director). **Prerequisite:** PHIL 250. (Fall) (3, 3T+0S)

366 GREAT WORKS OF ASIAN THOUGHT You will explore a selection of canonical readings from the classical Eastern traditions, including literary, philosophical, and religious writings of China, India, and Japan. You will use textual analysis which emphasizes recurrent, essential themes and concepts to highlight common themes between texts in an effort to identify the shared wisdom in these diverse traditions. **Prerequisite:** PHIL 250. (Spring) (3, 3T+0S)

452 PHILOSOPHY OF TECHNOLOGY You will examine technology in its distinctly Western form by tracing the essence of technology back to fundamental characteristics of Western thinking, beginning with the ancient Greek philosophers through contemporary philosophical analyses of technology. You will explore technology through popular works (such as film), which provide insight into the current human relationship to technology. **Prerequisite:** PHIL 250. (Spring) (3, 3T+0S)

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**PHYSICS (PHYS)**

110 INTRODUCTION TO PHYSICS Introduction to the fundamental laws of classical and modern physics. **Co-requisite:** PHYS 110L. (3, 3T+0L)

110L INTRODUCTION TO PHYSICS LAB **Co-requisite:** PHYS 110. (1, 0T+1L)

121 APPLIED PHYSICS I Study of the physics of mechanics, heat, and sound with applications in modern technology: for students in technological fields. **Prerequisite:** MATH 130; **Co-requisite:** PHYS 121L. (3, 3T+0L)

121L APPLIED PHYSICS I LAB **Co-requisite:** PHYS 121. (1, 0T+1L)

122 APPLIED PHYSICS II Continuation of PHYS 121. **Prerequisite:** PHYS 121/L; **Co-requisite:** PHYS 122L. (3, 3T+0L)

122L APPLIED PHYSICS II LAB **Co-requisite:** PHYS 122. (1, 0T+1L)

215 ENGINEERING PHYSICS I Motion in one/two dimensions, laws of motion, circular motion and applications of Newton’s laws, energy of a system and conservation of energy, linear momentum and collisions, angular momentum, oscillatory motion, wave motion and sound and superposition. **Prerequisite:** MATH 162 or ENGR 120; **Co-requisite:** PHYS 215L. [Fall, Spring, Summer] (3, 3T+0L)

215L ENGINEERING PHYSICS I LAB **Co-requisite:** PHYS 215. (1, 0T+1S)

216 ENGINEERING PHYSICS II Temperature and Thermal Expansion, Ideal Gas Law, Electric fields, Electric potential, Magnetism and Optics. **Prerequisite:** PHYS 215/L; **Co-requisite:** PHYS 216L. (3, 3T+0L)

216L ENGINEERING PHYSICS II LAB **Co-requisite:** PHYS 216. (1, 0T+1L)

262 GENERAL PHYSICS You will study optics and modern physics. **Prerequisites:** PHYS 122/L or PHYS 216/L; **Co-requisite:** PHYS 262L. (3, 3T+0L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN PHYS 2114 with lab)

262L GENERAL PHYSICS LAB You will engage in laboratory experiences supportive of PHYS 262, for which this course is a Co-requisite. (1, 0T+1L) Meets New Mexico Lower Division General Education Core Curriculum Area III Laboratory Science (NMCCN PHYS 2113 with lecture)
POLITICAL SCIENCE

290  UNDERGRADUATE RESEARCH EXPERIENCE IN PHYSICS A math-based experience in physics research, combining computational and experimental techniques through which you will learn computational modeling, experimental design, library and Internet information searches and research methodology while interacting with peers and faculty. You will prepare a technical report or poster on your activities. Research questions focus on nonlinear dynamics, chemical physics, and particle physics. (may be repeated for credit). Prerequisite: Grade average of at least 3.50 in MATH 130 and MATH 150, or permission of instructor. (3, 3T+0L)

302  OPTICS You will study geometrical optics, wave theory of light, Fresnel and Fraunhofer diffraction, polarization, absorption, dispersion, and scattering. Prerequisite: PHYS 262/L.

330  INTRODUCTION TO MODERN PHYSICS You will study special relativity, quantum effects, quantum mechanics, atomic and subatomic physics, and the instruments of modern physics. Prerequisite: PHYS 262/L; Co-requisite: PHYS 330L. (3, 3T+0L)

330L  INTRODUCTION TO MODERN PHYSICS LAB You will engage in laboratory experiences supportive of PHYS 330, for which this course is a Co-requisite. (1, 0T+1L)

331  THERMODYNAMICS AND STATISTICAL MECHANICS You will study the concepts of heat and thermodynamics, large numbers and probability distributions, oscillator, spin and gas systems, simple interacting systems, and Fermi statistics. Prerequisites: MATH 311 and 314. (3, 3T+0L)

405  ELECTRICITY AND MAGNETISM You will study electrostatics, the theory of dialectic materials, magnetostatics, the theory of magnetic materials, direct and alternating circuit theory, Maxwell equations, propagation, refraction and reflection of plane waves and wave guides. Prerequisites: MATH 311 and 312.

POLITICAL SCIENCE (PSCI)

Note: All courses have a prerequisite of ENG 109N or an adequate score on the Course Placement Evaluation.

110  THE POLITICAL WORLD Introduces you to political science with emphasis on the evolution of political thought and the realities of politics today. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Social and Behavioral Sciences (NMCCN POLS 1113)

120  CONTEMPORARY POLITICAL ISSUES You will study political issues confronting the individual in modern society at local, national, and international levels. (3, 3T+0S)

200  AMERICAN POLITICS Survey of American politics, theory of democracy, political institutions, the electorate, American governmental branches and their bureaucracies. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Social and Behavioral Sciences (NMCCN POLS 1123)

210  STATE AND LOCAL GOVERNMENT You will explore the nature of state and local governments and the relationships which those governments have with the federal government; functions of state and local governments with emphasis on New Mexico municipal, county, and state governments; study of New Mexico politics and its role in political parties. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Social and Behavioral Sciences (NMCCN POLS 1213)

212  THE AMERICAN PRESIDENCY You will study the presidency as an institution of power and of leadership and its relation to other political institutions. (3, 3T+0S)
PSYCHOLOGY (PSY)

Note: All 100 and 200 level courses have a prerequisite of ENG 109N or an adequate score on the Course Placement Evaluation.

105 GENERAL PSYCHOLOGY Introduces you to the traditional areas of psychology including psychobiology, learning, motivation, personality, psychopathology, psychotherapy and social problems. You will examine factors which determine and affect behavior, with emphasis on psychological principles applied to the human experience. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area IV Social and Behavioral Sciences (NMCCN PSY 1113)

120 TOPICS IN PSYCHOLOGY You will study selected topics in psychology and interdisciplinary application including, but not limited to, motivation, communication, leadership, learning skills and styles, interpersonal relationships, conflict resolution, and creativity. May be repeated for credit when topics vary. (2, 2T+0S)

140 INTRODUCTION TO SUBSTANCE ABUSE STUDIES This survey course offers an overview of the biological, psychological, and sociological aspects of drug and alcohol abuse and addiction and an overview of substance abuse problems in the family, school, and industry. Consideration will be given to current research, attitudes towards drugs, theories of drug addiction and treatment, and Licensed Alcohol and Drug Abuse Counselor requirements in the state of New Mexico. Prerequisite: ENG 111 (3,3T+0S)

141 PSYCHOLOGY OF DRUG AND ALCOHOL ABUSE The physiological and behavioral effects of alcohol and other drugs will be examined. Emphasis is placed on the psychopharmacology of commonly abused substances, the disease concepts of chemical dependency, and on current research. Prerequisite: ENG 111 (3, 3T+0S)

150 PERSONAL GROWTH You will explore the personal development of one’s mental, emotional, and physical state. You will study and discuss such interventions as nutrition, stress management, problem solving, and life-style changes. (3, 3T+0S)

210 THEORIES OF PERSONALITY AND COUNSELING APPLICATIONS Survey of theory and application of both classical and contemporary approaches to the study of personality, with emphasis on an application of theory to counseling; consideration of legal and ethical issues within the profession of counseling. (3, 3T+0S)

211 APPLIED PSYCHOLOGY Application of psychological theory to topics with applications to everyday life, law, behavior modification, biofeedback, counseling, consumer psychology, and environmental problems. (3, 3T+0S)

212 CHILD PSYCHOLOGY AND DEVELOPMENT You will study of the development and behavior of the child from conception to adolescence, with emphasis on physical, emotional, social, and intellectual development through an understanding of the major theorists including Erikson and Piaget. Practical applications of theory into practice for preschool-elementary classroom will be incorporated. (3, 3T+0S)

215 BASIC COUNSELING TECHNIQUES You will become acquainted with basic counseling skills, including active listening techniques such as paraphrasing, summarization, attending behaviors, and focusing. Emphasis is on rehearsal of skills and on application of skills in personal, academic, therapeutic, individual, and group settings. (3, 3T+0S)

216 ADVANCED COUNSELING TECHNIQUES Emphasizes therapeutic interventions, conceptualization of problems, setting goals, selecting strategies, and treatment planning. Prerequisite: PSY 215. (Spring) (3, 3T+0S)
217 INTERVIEWING AND ASSESSMENT  Covers basic counseling skills which include active listening techniques such as reflection of content and feelings. Also includes therapeutic interventions, assessment of clients, setting goals, selecting strategies with clients, and treatment planning. Emphasis is on rehearsal of skills. (3, 3T+0S)

225 CREATIVE DRAMA TECHNIQUES FOR THE CLASSROOM K-12  Designed for Education and Human Services majors, this course will assist you to focus on techniques of creative dramatics for use in the classroom and/or counseling situations. You will be exposed to the study of psychodrama and the therapeutic uses of role-play, as well as being exposed to theatre games, exercises, and improvisation as adapted to various curricula for K-12 (science, social studies, math, language arts, etc.). You will participate in creative drama activities and have the opportunity to lead a group using the learned techniques in that group’s curriculum field. (Cross-listed as THE 225) (3, 3T+0S)

229 ADOLESCENT PSYCHOLOGY  You will study adolescent psychology from different theoretical perspectives, examining the process of development during adolescence including such topics as physiological, sexual, and emotional development, as well as the role of peer and family influences in the process of self-emergence and personal adjustment. (3, 3T+0S)

230 PSYCHOLOGY OF ADJUSTMENT  Psychological health, mental illness, adjustment problems (divorce, death, illness, etc.) and the adjustment process. (3, 3T+0S)

232 ABNORMAL PSYCHOLOGY  Review of the historical, scientific, and ethical issues in the field of psychopathology; theories of abnormal behavior development, systems of therapy, and relevant research. (3, 3T+0S)

250 DRUG AND ALCOHOL ASSESSMENT, REFERRAL, & TREATMENT METHODS  You will study twelve core functions and global criteria of the alcohol and other substance abuse, including screening, intake, orientation, assessment, crisis intervention, treatment planning, counseling, case management, client education, referral, report and record keeping, and consultation with other professionals in regard to client treatment and services. Attention will be given to the ethical considerations involved in the therapeutic process. In this course you will devote six clock hours to ethics of the substance abuse counselor. Pre or Co-requisites: PSY 140, ENG 111. (3,3T+0S)

260 FAMILY SYSTEMS THEORY  You will study the major theories in family systems with emphasis on the counseling applications and practice in counseling interventions with dysfunctional family structures. (3, 3T+0S)

261 THERAPEUTIC INTERVENTIONS WITH CHILDREN & ADOLESCENTS  You will study both the classic and contemporary theories of family systems, identifying key concepts and basic assumptions of a number of theories along with treatment approaches and therapeutic techniques. (3, 3T+0S)

262 INTERVENING IN ADOLESCENT BEHAVIOR  You will focus on problem behaviors of adolescence and solution applications including, but not limited to, conflict management and resolution, crisis intervention, and problem-solving techniques. Prerequisite: PSY 229. (3, 3T+0S)

271 HUMAN SEXUALITY  You will go through a thorough analysis of physiological, behavioral, experiential, social, and cultural aspects of human sexuality; learning, role behavior, development, mental health, aesthetics, imagery, and social deviance as related to sexuality. (3, 3T+0S)

275 GROUP PROCESS  Introduces you to basic issues and stages of development in the group counseling process: overview of types of counseling groups, group theory, leadership, ethical guidelines, group formation and termination. (3, 3T+0S)
280 PRACTICUM FOR HUMAN SERVICES  Field or practical experience for individuals in the Human Services degree program: supervision by faculty member and a professional worker in a situation involving practical application of skills learned in the classroom. With the instructor’s guidance and permission, you will arrange for the experience which requires at least 50 clock hours of supervised experience for each credit hour granted. Prerequisite: PSY 275 and permission of the program director. (3, 3T+0S)

281 PRACTICUM FOR SUBSTANCE ABUSE COUNSELORS  Field or practical experience for individuals in the Substance Abuse Counselor degree program: supervision by faculty member and a professional worker in a situation involving practical application of skills learned in the classroom. With the instructor’s guidance and permission, you will arrange for the experience which requires at least 50 clock hours of supervised experience for each credit hour granted. Prerequisite: PSY 241 and permission of the program director. (3, 3T+0S)

283 MENTORING PRACTICUM  You will initially take part in a four-hour training which will cover leadership, community relations, self-esteem, and communication skills. Thereafter, you will participate individually or in small groups of mentors, in a community or college project, activity, or club. You may also participate with the program in an area related to your degree major. You will put in a total of 48 hours, including lecture time, required for this course. May be repeated once for credit. (1, 0T+1L)

285 CRISIS INTERVENTION  Advanced techniques for intervention in crisis situations, including skills of assessment, active listening, focused exploration, action planning, termination and treatment of planning; reviews major situations that create crisis. Prerequisite: PSY 215. (Fall) (3, 3T+0S)

286 GRIEF COUNSELING SKILLS  Introduces you to the specific skills of grief counseling dealing with loss, death, and crisis. Prerequisite: PSY 215. (3, 3T+0S)

290 DEVELOPMENTAL PSYCHOLOGY  You will study the more salient aspects of behavior and development through the lifespan from conception through old age, with emphasis on current research and theory. (3, 3T+0S)

301 BIOPSYCHOLOGY  You will explore the biological bases of behavior, learning how the biological perspectives are applied to understanding behavior including, but not limited to, anatomy and physiology of the brain, sensory systems, genetics, sexuality, hormones, neurotransmitters, and the biological basis of learning, memory, emotions, and stress. Prerequisites: ENG 111 and PSY 105. (3, 3T+0S)

302 ISSUES OF DEATH AND DYING  This course studies the issues of death and dying including individual and social perspectives, developmental understanding of death, impact of death on families, the stages of dying and grief and the legal and ethical issues regarding death and dying. Prerequisites: ENG 111, PSY 105 (3, 3T+0S)

305 POSITIVE PSYCHOLOGY  This course is the study of how human beings prosper in the face of adversity. Its goal is to identify and enhance the human strengths and virtues that make life worth living. Prerequisites: ENG 112 and PSY 105 (Fall, Spring, Summer) (3, 3T+0S)

321 RESEARCH DESIGN  This course presents the methods of scientific research, using active learning and hands-on experiences, to include an emphasis in theory and in learning the basic skills of research methodology such as experimental and quasi-experimental design. There will be a module on ethics of research. The goal of this class is for the student to have acquired the skills necessary to conduct research in an independent research project. Offered only in the Fall. Students planning to graduate in May should take this course in the Fall before their projected Spring graduation. Prerequisites: ENG 111, PSY 150. Cross
PUEBLO INDIAN STUDIES

listed with CJ 321. (3, 3T+0S)

370 SOCIAL PSYCHOLOGY Students will explore factors that affect individual behavior in group situations; individual behavior with the family, at work, and in extreme situations such as combat; aggression, and conformity. Prerequisites: ENG 111, PSY 105 (3, 3T+0S).

400 SPECIAL TOPICS IN PSYCHOLOGY You may enroll in this course twice for credit as its content and focus will be on varied specialized fields in psychology. Prerequisites: ENG 111 and PSY 105. (3, 3T+0S)

410 COMPARATIVE PERSPECTIVES IN PSYCHOLOGY In this course, you will examine various theories related to the fundamental nature of the mind, mental states, and mental processes. Your study will emphasize traditional perspectives of the East and the West, giving careful consideration to questions concerning the relation between the mind and the physical world. Prerequisites: ENG 111 and PSY 105. (3, 3T+0S)

411 HUMAN ECOLOGY Because each of us contributes to the human ecological web, in this course you will explore how the human psychological perspective and environment are independent and interrelated. Prerequisites: ENG 111 and PSY 105. (3, 3T+0S)

421 INDEPENDENT RESEARCH PROJECT You will implement, interpret, and report on individually designed research projects. Prerequisite: PSY 321. (3, 3T+0S). Cross listed with CJ 421.

456 GRIEF THEORY AND PROCESS The student will study theories of grief and the grief process and models of bereavement examining the ethical issues involved in the grief process. Prerequisites: ENG111, PSY105 (3, 3T+0S)

477 PSYCHOLOGY OF GENDER AND SEXUALITY The student will explore issues in the behavior of men and women, including theoretical perspectives, stereotyping, gender differences, development, sexuality, and social and cultural problems. Prerequisites: ENG 111, PSY 105. (3, 3T+0S)

PUEBLO INDIAN STUDIES (PIS)

Note: All 200 level courses have a prerequisite of ENG 109N or adequate score on Course Placement Evaluation.

200 INTRODUCTION TO PUEBLO INDIAN STUDIES You will survey academic approaches, such as history, linguistics, and anthropology, to the study of Pueblo Indians and their neighbors. Prerequisite: ENG 109N. (Fall, Spring) (3, 3T+0S)

220 PUEBLO ARTS, CRAFTS, AND CULTURE You will be introduced to this course through stories which accompany hands-on learning in various arts and crafts as told in the Pueblos for daily life and the transmission of cultural practices and knowledge. The course is taught by social scientists, along with artists in beadwork, fabric work, wood carving, storytelling, and more. (3, 3T+0S)

240 RESEARCH TOPICS IN PUEBLO INDIAN STUDIES You will engage in directed one-on-one research topics related to Pueblo Indian Studies. May be repeated to a maximum of 6 credit hours. Prerequisite: permission of instructor. (1-6, 1-6T+0S)

242 PUEBLO INDIAN WOMEN'S LIVES You will survey anthropological, sociological, historical, life history, arts and crafts, and other writing by and about Pueblo Indian women. Topics may vary from term to term. (Fall) (3, 3T+0S)

245 SPECIAL TOPICS IN TRIBAL LANGUAGES This course will fulfill the college’s general education language requirement. Students will engage in direct language acquisition related to the course of the study of indigenous languages. Students will directly work
with the tribal language program in which they have membership. Prerequisite: permission of instructor (Fall, Spring) (3, 3T+0S)

250 INTERNSHIP IN TRIBAL LEADERSHIP, COMMUNICATION, AND TECHNOLOGY
You will do a Field Service Learning and Internship with the Pueblo in which you have membership. Permission of instructor. Graded CR/NC. (3, 0T+3L)

251 INTERNSHIP IN TRIBAL LEADERSHIP, COMMUNICATION, AND TECHNOLOGY
II This is a continuation of PIS 250. You will do a field service learning and internship. Permission of instructor. Graded CR/NC. (3, 0T+3L)

252 PUEBLO INDIAN HISTORY
You will study academic approaches to historical studies of Pueblo Indians in New Mexico and Arizona from pre-Columbia to the present using archival sources, ethno-historical resources, and federal records. (3, 3T+0S)

256 PUEBLO TRIBAL GOVERNMENTS
You will study the forms of government practices used by Pueblo Peoples at the time of contact with Europeans to the present. (3, 3T+0S)

258 INDIAN GAMING, ENTREPRENEURSHIP, SOVEREIGNTY
You will survey games played by Pueblo Indians from earliest times to the present and how the establishment of casinos fits within these traditions. You will study the recent history of gaming from Bingo operations and the tribal court battles to the passage of the federal Indian Gaming Regulatory Act (1988). You will also explore and debate the importance of political and economic issues to Pueblo gaming. Prerequisite: ENG 111. Cross-listed as BA 258. (3, 3T+0S)

265 NATIVE AMERICAN LITERATURE I
Involves a survey of Native American writing from the time of the European invasion to the present with an emphasis on contemporary authors. Cross-listed as ENG 265. Prerequisite: ENG 111. (3, 3T+0S)

266 NATIVE AMERICAN LITERATURE II
Involves critical reading and discussions of writings by Native American writers of fiction (short stories and novels) and poetry. Cross-listed as ENG 266. Prerequisite: ENG 111. (3, 3T+0S)

346 TOURISM AND THE ARTS IN NEW MEXICO PUEBLOS
As tourism and art production have become principal means for the Pueblo peoples of New Mexico to support their families and communities, you will study this course through a multi-lens perspective of this economic, cultural, and aesthetic reality using historical readings, short films, and visits to local museums and Pueblo artists’ galleries. Prerequisites: PIS 200 and ENG 111. (Fall, Spring). (3, 3T+0S).

370 PUEBLO INDIANS AND EDUCATION
You will examine traditional ways of learning in Pueblo Indian cultures and compare those teaching methods with BIA and contemporary compact schools and public schools. Prerequisites: PIS 200 and ENG 111. (Fall, Spring) (3, 3T+0S).

372 PUEBLO HEALTH CONCEPTS AND PRACTICES
You will examine Pueblo health care beliefs, values, and practices in modern life. Prerequisites: PIS 200 and ENG 111. (Fall, Spring) (3, 3T+0S).

381 SPIRIT OF PLACE, NATIVE SENSES OF PLACE
You will examine the meaning of place in your life and its particular importance to understanding Native identity and culture. You will focus on how to relate place with examples of how Native writers, poets, artists, storytellers, and other performers convey a “sense” or “spirit” of place in their work. Cross-listed as HUM 381. Prerequisites: PIS 200 and ENG 111. (Fall, Spring) (3, 3T+0S)

386 SPECIAL TOPICS IN PIS
Prerequisites: PIS 200 and ENG 111. (Fall, Spring) (1-6, 1-6T+0L).
458 ADVANCED RESEARCH You will further develop research techniques applied throughout PIS courses through a focused, individual research project. *Prerequisite:* Permission of instructor. (Spring) (3, 3T+0S).

483 TEWA ETHNOBIOLOGY: PLANTS AND ANIMALS OF THE TEWA WORLD You will study, through lecture and field trips, how Tewa cultures reproduce knowledge of nature, including how indigenous plants and animals are named in Tewa dialect, as well as Spanish and English, and how those introduced by Spanish and American settlers became incorporated into Tewa culture. *Prerequisites:* PIS 200 and ENG 111. (Fall, Spring) (3, 3T+0S).

484 AGRICULTURE PRACTICES OF THE PUEBLO WORLD You will study diverse agricultural practices used by Eastern and Western Pueblos from pre-Columbian times to the present. *Prerequisites:* PIS 200 and ENG 111. (Fall, Spring) (3, 3T+0S).

488 PUEBLO INDIAN STUDIES SENIOR SEMINAR This is your capstone course which is designed to bring Integrated Studies students together in your final semester for an intensive review of materials covered in your full course of study. *Prerequisite:* PIS 458. (Spring) (3, 3T+0S)

### RADIATION PROTECTION (RDPR)

233 RADIATION BIOLOGY Survey of radiobiology: effects of differing types of radiation on matter, different radiations and their properties; detailed modes of action of radiation on biochemical and biophysical systems with emphasis on the large macromolecules of living tissue; nature of radiation damage to long-chain nucleic acid molecules; potential problems from indiscriminate use of radiation therapy and diagnostic x-rays, and nuclear facility accidents; effects of low-level radiation exposure. Cross-listed as ES 333. *Prerequisite:* permission of instructor. (Spring only) (3, 3T+0L)

234L INTRODUCTION TO RADIOSCIENCE AND TECHNOLOGY Production, properties, interactions, dosimetry, detection and instrumentation of radiations from radioisotopes, radiation producing equipment, and nuclear reactors; phenomenon of radioactive materials from the viewpoint of nuclear stability, decay processes, and interaction with matter; devices and instrumentation for detection of radiation sources; applications of radiation and radioisotope techniques; radiation safety. *Prerequisite:* permission of instructor. (Fall only) (4, 4T+0L)

238L INTRODUCTION TO RADIATION PROTECTION Theory and practice of radiation protection: health physics programs for area, site, and personnel monitoring for various types of facilities including nuclear materials production and processing, nuclear reactors, accelerators, radioisotope handling, and x-ray production facilities; interaction of radiation with material; devices and instrumentation for the detection of radiation with emphasis on health physics applications; safe handling procedures and survey methods; translation of guides and regulations to working procedures. *Prerequisite:* RAD 234L, or permission of instructor. (Spring only) (4, 3T+1S)

242 PROBLEMS IN RADIATION PROTECTION Considers current topics of concern in radiation protection, such as natural radiations, radiations peculiar to industrial and manufacturing processes, low-level radiation exposure, and ALARA principles. *Prerequisite:* RAD 234L, or permission of instructor. (Fall only) (4, 4T+0L)

243 PRACTICAL RADIOLOGICAL PROGRAMS AND SAMPLING METHODS Practical methods of handling Health Physics problems in the field. Includes techniques for environmental monitoring, sampling, and contamination control. Environments covered: uranium, plutonium, and tritium facilities, and accelerators, reactors, and general hospitals. (Summer only) (4, 4T+0L)
The following course is not taught at Northern. It exists only in terms of enabling posting of incoming credit from agencies providing this training.

**244 RADIOLOGICAL CONTROL TECHNICIAN QUALIFICATION** The RCT qualification process focuses on types of jobs that RCTs actually perform (conduct of radiological work). Includes training procedures in planning radiological work and radiological work controls, radiological monitoring and surveys, managing radioactive waste and contamination, radioactive material identification, storage, and control, releasing items and transporting radioactive material, instrumentation and calibration, controlling radioactive liquids and airborne radioactivity, construction and restoration projects, and activities involving energetic materials; radiological standards dealing with 1) administrative controls levels and dose limits, and 2) posting requirements; handling radiation-contaminated personnel; respiratory protection program; and managing radiological records. Those Radiation Protection majors who present current RCT certification to the Registrar will receive credit for this course, which may be substituted for PHYS 121 and 121L within the Radiation Protection degree major only. (4, 3T+1L)

**READING IMPROVEMENT (RDG)**

**108N READING IMPROVEMENT** Introduces students to reading required for vocational programs and the workplace. Comprehension and critical thinking are stressed. **Prerequisite:** ENG 106N or adequate score on Course Placement Evaluation. (3,3T+0S)

**109N READING AND CRITICAL THINKING** Introduces students to reading required for college success. You will work on comprehension, problem solving, note taking, summarizing, and computer assisted research. **Prerequisite:** RDG 108N, or adequate score on Course Placement Evaluation. (3, 3T+0S)

**RENEWABLE ENERGY (RE)**

**103 RENEWABLE ENERGY INTRODUCTION AND OVERVIEW** In this course you will view the past, present, and future fields of renewable energy used to: heat, light, and cool buildings; produce domestic hot water; power, heat, and cool industrial processes; provide transportation; and provide communications. You will cover many systems: passive, active, and photovoltaic solar; wind; micro-hydro; wave; geothermal; biomass; fuel cells; human and animal power; and hydrogen. You will also cover vehicle fuels, such as ethanol, biodiesel, CNG, along with electric and hybrid systems, regenerative braking, and flywheels. Classes will be conducted both on- and off-campus. **Prerequisite:** ENG 108N and MATH 100N. (3, 3T+0S)

**104 ARCHITECTURE 2030 AND THE 2010 IMPERATIVE** Because half of the planet’s greenhouse gasses are produced by the construction and then the heating, cooling, and lighting of buildings, and because the state and several cities in New Mexico have committed to the Architecture 2030 movement—a worldwide effort of monumental scope to change the design of buildings to end this contribution to global warming by the year 2030, in this course you will examine the changes needed in building design and construction, including design exercises. **Prerequisites:** ENG 108N and MATH 100N. (3, 3T+0S)

**105 SUSTAINABILITY IN CONSTRUCTION INSTALLATION** Fundamentals of green and sustainable construction, safety in the construction and installation of photovoltaic (PV) solar panel mounting systems and tracker sub categories. Includes safety basics, identification of safety hazards, practices and protective equipment needed during PV system installation, and maintenance. Also includes the identification of tools needed and the recommended green sustainable energy efficient choice of materials. (Fall, Spring, Summer) (1, 1T+0S)
108  **ACTIVE SOLAR HEATING**  Solar energy can supply heat for buildings, domestic hot water, and industrial processes. Active systems acquire heat with collectors; distribute the heat with fluids driven by pumps or blowers; store the heat in liquids, solids, or change-of-state materials; and control the process with electrical or electronic sensors and controls. In this course you will analyze requirements and match needs with appropriate systems. Recommended Co-requisite: RE 108L. (3, 3T+0S)

108L  **SOLAR ENERGY LAB**  Working with components of both active and passive solar heating systems: flat plate and concentrating collectors; heat transfer gasses, liquids, and solids; monitoring, control, and distribution systems; glazing, selective surfaces; and low emissivity materials. You will cover heat storage in liquids, solid, and change-of-state materials, with an emphasis on mounting components, pipe and duct connections, and safety. Classes will take place on- and off-campus. Recommended Co-requisite: RE 108 or ADOB 107. (2, 0T+2S)

110  **INTRO TO SOLAR HEATING PLUMBING**  You will study the basics of plumbing technology found in solar heating systems, including domestic hot water (DHW), space heating, and heating systems. You will cover basic plumbing theory and the requirements of the International Plumbing Code (IPC) and the Uniform Plumbing Code (UPC). (1, 1T+0S)

110L  **INTRO TO SOLAR PLUMBING LAB**  You will engage in laboratory experiences which apply to the theoretical material covered in PLB 110. You will work with the most common components, methods, tools, and pipe materials needed to connect solar heating systems from collectors to heat exchangers to storage and to point-of-use. Safety in the plumbing environment is stressed. (2, 0T+2S)

111  **BEGINNING PHOTOVOLTAIC INSTALLATION**  Introduction to photovoltaic energy and photovoltaic (PV) system installation. Includes markets and applications, safety basics, electricity basics, energy efficient appliances, solar energy fundamentals, photovoltaic materials, module fundamentals, concentrators, system components, system sizing, electrical design, mechanical design, and performance analysis and troubleshooting. This course specifically provides preparation for the North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic Installer Certification exam. (Fall, Summer, Spring) (3, 1T+2S)

112  **ROOF MOUNTING FOR SOLAR INSTALLATION**  Techniques and skills for Photovoltaic (PV) installers to size, design, and install solar panels. An introduction to different types of mounting systems, site location of panels, orientation to house, shading at the site, weather, roof materials, soil and load bearing capacity. (Fall, Spring, Summer) (4, 2T+2S)

121  **BUILDING ENERGY AUDIT AND ASSESSMENT**  This course covers the tools, techniques, and methods needed to conduct building energy audits and assessments. (3, 1.5T+1.5S)

127  **GEOTHERMAL SYSTEMS FOR HEAT AND POWER**  You will discuss the full range of geothermal systems, from their origins and uses to how geothermal energy can provide industrial process heat and electrical energy. Classes will take place on- and off-campus. Prerequisite: RE 103. (4, 2T+2S)

128  **BIOMASS SYSTEMS FOR HEAT, POWER, AND COGENERATION**  You will study biomass, a wide range of heat and energy productions systems that use plant materials. You will also study the range of equipment: from the fire pit to the highly efficient nearly zero-emitting industrial furnaces. You will be introduced to coal-fired power plants, carbon material, and carbon-neutral and carbon-sequestering concepts. You will work with small scale systems and equipment both on- and off-campus. Prerequisite: RE 103. (4, 2T+2S)
129 TRENDS AND EMERGING ENERGY SOURCES You will use this class as a forum to research, discuss, and forecast emerging trends in the field of renewable and emerging energy sources, which have been around for a long time and have now grained international attention and a high status not previously enjoyed to the extent that homeowners, garage scientists, multinational companies and national governments are focused on incremental developments and giant leaps into new technologies. Prerequisite: RE 103. (2, 2T+0s)

130 HYDROELECTRIC POWER SYSTEMS You will be introduced to micro-hydro systems for single residences, macro-hydro systems for small towns, and mega-hydro systems such as the Tennessee Valley Authority and Niagara Falls. Lab experience will cover small micro turbines and their installation and use. Classes will take place on and off campus. (2, 1T+1S)

140L ELECTRIC VEHICLE CONVERSION: VOLTS AND BOLTS Through hands-on experience, you will learn how to convert an internal combustion engine vehicle to an electric vehicle (EV) powered by an electric motor and batteries. During the course, you will address vehicle selection, modification, removal of internal combustion-related parts, current EV technologies, performance considerations, driving techniques, charging infrastructure, and safety issues. (2, 1T+1S)

144 BIO-DIESEL FUEL PRODUCTION AND ENGINE REQUIREMENTS In this course, you will cover the history and present methods of producing bio-diesel fuel from soybeans and from recycled cooking oils and other industrial byproducts. You will discuss the engine requirements for using bio-diesel fuels and demonstrate options. You will assemble and use a small-scale bio-diesel production unit. You will investigate fuels available at pumps and project future possibilities. You will spend time under the hood of a functioning bio-diesel vehicle. Prerequisites: ENG 108N, MATH 100N, and RE 103. Recommended Co-requisite: ELEC 190. (4, 2T+2S)

146 BIO-HYBRID FUEL PRODUCTION AND ENGINE REQUIREMENTS In this course, you will cover the methods of producing bio-diesel fuel for gas engines from corn and from recycled or redirected industrial products and byproducts. You will discuss the engine requirements for using bio-hybrid fuels and demonstrate options. You will investigate home production and fuels available at pumps and project future possibilities. You will spend time under the hood of a functioning bio-hybrid vehicle. Prerequisites: ENG 108N, MATH 100N, and RE 103. Recommended Co-requisite: ELEC 190. (4, 2T+2S)

160 RENEWABLE ELECTRICAL POWER SYSTEMS You will study the basics of alternative power production from solar and wind energy, comparing and contrasting the different systems and methods so that you will be prepared to address selection and adaptation of systems to specific sites and requirements. You will study the calculations needed to provide sufficient power and conductor size to match the requirement of the user to cover the production, storage, and transmission to the point-of-use. In addition to theoretical considerations, through these hands-on lab activities, you will gain experience with some of the actual system components, such as solar photovoltaic panels, trackers, wind generators, charge controllers, battery storage, inverters, and grid tie systems. Prerequisite: MATH 130 or permission. (3, 2T+1S)

207 WIND ENERGY SYSTEMS DESIGN AND INSTALLATION In this course you will study and discuss electrical energy production from the wind, including mechanical windmill water pumps; generator types from propeller driven units on towers to vertical axis turbines and emerging designs; the installation and maintenance of systems and safety concerns. Classes will take place on- and off-campus. Prerequisites: ENG 108N, MATH 100N, RE 103, and ECET 160. Recommended Co-requisite: ELEC 190. (4, 2T+2S)
208  **PHOTOVOLTAIC SYSTEMS DESIGN AND INSTALLATION**  This course covers the rapidly developing technology dealing with electrical energy production from the sun. You will study the contrasts between AC versus DC, and grid-tied versus stand-alone systems. You will discuss collectors, batteries, control systems, disconnects, over-current protection and distribution to structures, with an emphasis on the installation and maintenance of systems and safety concerns. Classes will take place on- and off-campus. **Prerequisites:** ENG 108N, MATH 100N, RE 103. Recommended **Co-requisite:** ELEC 190. (4, 2T+2S)

212  **ADVANCED PHOTOVOLTAIC INSTALLATION**  Continuation of RE111. Includes advanced photovoltaic (PV) energy and system installation training, safety basics, stand-alone PV system sizing, grid-tied system sizing, National Electric Code (NEC), compliant wire sizing, grounding of PV systems, site analysis and array mounting, and PV system commissioning, troubleshooting, maintenance and performance evaluation. This course specifically provides preparation for the North American Board of Certified Energy Practitioners (NAB-CEP) Photovoltaic Installer Advanced Certification exam. (Fall, Spring, Summer) (3, 1T+2S)

**SCIENCE, MATH, AND ENGINEERING TECHNOLOGY GENERAL (SMET)**

101  **INTRODUCTION TO SCIENCE, MATH, ENGINEERING, AND TECHNICAL CAREERS**  This course is designed to ease the transition between two-year programs to four-year universities. Through active collaborative participation, you will learn about careers in science, mathematics, engineering, and technology; review and reinforce basic study and academic success skills; and learn additional methods for increasing learning and retention of material. You will also gain a strong working knowledge of collaborative learning environments and learn to effectively use study groups to increase academic success. Flexible learning strategies and creative problem-solving techniques will be emphasized through hands-on activities and exercises. (Spring only) (1-3, 1-3T+0S)

**SOCIOLOGY (SOC)**

Note: All courses have a prerequisite of ENG 109N, or adequate score on the Course Placement Evaluation.

101  **INTRODUCTION TO SOCIOLOGY**  Theorists and theories of human group behavior. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area IV Social and Behavioral Sciences (NMCCN SOC 1113)

105  **INTRODUCTION TO HUMAN SERVICES**  Introduces you to the structure, nature, purpose, and procedures of the private and public human services systems; i.e., health, welfare, education, employment, religion, and criminal justice. During this course, you will be required to perform two hours per week of field or practical experience in the community. (3, 3T+0S)

140  **SOCIOLOGY OF ALCOHOL AND SUBSTANCE ABUSE**  You will survey the history, law, economics, and social problems regarding alcohol and drug use and abuse, including prevention and treatment efforts. (3, 3T+0S)

141  **EFFECTS OF ALCOHOL AND DRUG ABUSE**  Covers the physiological and behavioral effects of alcohol and other drugs. Major categories of drugs (stimulants, depressants, hallucinogens, etc.) are studied separately. (3, 3T+0S)

211  **SMALL GROUP COMMUNICATIONS STUDIES**  You will learn the theory and skills involved in small group processes through participation, including attention to group types, characteristics, dynamics, conflicts, norms, leadership, problem solving, and decision making. (3, 3T+0S)
213  **DEVIAN'T BEHAVIOR** Analysis of deviation from societal norms including history, theory, and research on individual and group norm violations and societal responses to the violations. (3, 3T+0S)

216  **ETHNIC/INTERCULTURAL RELATIONS** You will study the patterns of race, ethnicity, minority, class, and gender interactions from individual, group, and institutional perspectives with a focus on the dynamics of ethnocentrism, prejudice, and discrimination. (3, 3T+0S)

220  **SOCIAL PROBLEMS** You will examine various social problems, proposed solutions, and probably repercussions of those solutions; racism and prejudice, crime, sex roles, social stratification, ecology, drug abuse, and alcoholism. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area IV Social and Behavioral Sciences (NMCCN SOC 2113)

225  **MARRIAGE AND THE FAMILY** You will study the history, current state and future of courtship, marriage, family, parenthood, divorce, remarriage, and sex roles. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area IV Social and Behavioral Sciences (NMCCN SOC 2213)

250  **PSYCHOSOCIAL GERONTOLOGY** You will examine the aging process and the aging person from social and psychological perspectives, including inter-generational interaction, age grading, family responsibilities, social attitudes and perspectives of the aged person; examines social institutions designed to support the aging person from the standpoint of their service to the aging persons and their families. (3, 3T+0S)

**SPANISH (SPAN)**

100  **CONVERSATIONAL SPANISH** Limited grammar, vocabulary and pronunciation skills will be developed. May be repeated for credit. (1-3, 1-3T+0S)

101  **SPANISH I** Introductory course for those who are not native Spanish speakers and who have had little or no previous exposure to Spanish. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V (NMCCN SPAN 1113)

102  **SPANISH II** Continuation of SPAN 101. **Prerequisite:** SPAN 101. (4, 4T+0S) Meets New Mexico Lower Division General Education Core Curriculum (NMCCN SPAN 1124)

105  **SPANISH IMMERSION I** Designed to prepare teachers to pass the Four-Skills Spanish Exam. The main goal is to bring you to the level of proficiency necessary to speak, write, read, and comprehend in Spanish. **Prerequisites:** SPAN 101 and 102. (3, 3T+0S)

111  **SPANISH AS A HERITAGE LANGUAGE I** As a student whose heritage language is Spanish, your objectives in this course will be to build upon your present language base, with emphasis on the development of all four language skills: listening, speaking, reading, and writing. (3, 3T+0S)

112  **SPANISH AS A HERITAGE LANGUAGE II** Your objectives in this course will be to continue to build upon your present language base, with emphasis on the development of all four language skills: listening, speaking, reading, and writing. **Prerequisite:** SPAN 111. (3, 3T+0S)

201  **INTERMEDIATE SPANISH I** Vocabulary building, oral and written expression; thorough review of grammar and usage. **Prerequisite:** SPAN 101 and SPAN 102. (3, 3T+0S)

202  **INTERMEDIATE SPANISH II** A continuation of SPAN 201. **Prerequisite:** SPAN 201. (3, 3T+0S)
SPANISH

205 SPANISH IMMERSION II This course is designed to reinforce your listening, speaking, reading, and writing skills in Spanish. You will concentrate on practicing the rule for accents, grammar, orthography, reading for meaning and interpretation, conversation, and articulation in Spanish. Prerequisite: SPAN 105. (3, 3T+0S)

211 SPANISH AS A HERITAGE LANGUAGE III In this intermediate level course for heritage language students, you will review grammar and continue your development of the four language skills with an emphasis on literacy and speaking. Prerequisite: SPAN 112. (3, 3T+0S)

212 SPANISH AS A HERITAGE LANGUAGE IV In this intermediate level course for heritage language students, you will continue your development of the four language skills with emphases on reading authentic materials, practical writing needs, and communicating with native speakers. Prerequisite: SPAN 211. (3, 3T+0S)

221 CREATIVE WRITING IN SPANISH You will study Spanish and bilingual creative literary expression, including poetry, fiction, and drama. Prerequisite: SPAN 102, or permission of instructor. (3, 3T+0S)

230 SPANISH FOR HEALTH PROFESSIONS This is an introductory course for health professionals and persons interested in health care who must communicate with Spanish-speaking patients: basic concepts of grammar; develops vocabulary and communicative competencies appropriate to a health care setting. (3, 3T+0S)

290 READINGS IN HISPANIC LITERATURE You will study selected topics, genres, periods, and movements in Latin American or Peninsular literature; lectures, discussions, and composition in Spanish; occasionally offered in translation. Prerequisite: reading and writing proficiency in Spanish. (3, 3T+0S)

300 SPECIAL TOPICS IN HISPANIC LANGUAGE AND CULTURE This course will provide you an opportunity for emphasis on oral and written expression based on a theme or language-related topics (literature, culture, civilization, translation, commercials, etc.). Prerequisite: Reading and writing proficiency in Spanish. (3, 3T+0S)

301 INTRODUCTION TO HISPANIC LITERATURE Through lectures, discussion, and composition in Spanish, you will study the novel, poetry, short fiction, and drama of Spain and Latin America, with emphasis on interpretation rather than literary history. Prerequisite: Reading and writing proficiency in Spanish. (3, 3T+0S)

307 CIVILIZATION AND CULTURE You will study the Spanish, Latin American, and southwestern U.S. Spanish experience of yesterday and today through the social, historical, political, and literary aspects that his experience encompasses. Prerequisite: Reading and writing proficiency in Spanish. (3, 3T+0S)

325 SPANISH FOR WRITTEN COMMUNICATION You will develop writing proficiency and critical thinking through reading and discussion of a variety of texts from Spain and Spanish-speaking America. You will be guided in your understanding of the reading selections at the textual and cultural level with an ample analysis of vocabulary words which may have multiple meanings in Spanish. You will focus on strategies in composing different pieces of writing. Prerequisites: SPAN 101 and 102 or SPAN 201 and 202. (3, 3T+0S)

350 INTRODUCTION TO SPANISH LINGUISTICS You will enter into the study of phonology, morphology, syntax, and dialectology of the Spanish language. Prerequisites: SPAN 202 or 212 or 300. (3, 3T+0S)

351 ADVANCED SPANISH GRAMMAR You will further your study of morphological and syntactic structures through analysis. Prerequisite: SPAN 350. (3, 3T+0S)
SPANISH-COLONIAL FURNITURE MAKING (SCFM)

110L BASIC SPANISH COLONIAL FURNITURE LAB Fundamentals such as hand/power tools usage and safety, carving techniques, selection of materials; introduces historical themes; repeatable; offered in evenings only. (4, 0T+4S)

SPECIAL EDUCATION (SPED) – ALTERNATIVE LICENSURE PROGRAM

401 FOUNDATIONS OF EDUCATION This course addresses competencies for entry-level teachers from a theoretical and historical perspective of models and theories that provide the basis of special education practice. It also addresses current and historical state and national rules and regulations relating to special education. The course provides
the basis for procedural safeguards relating to educational services and state and federal mandates for students with disabilities. Based on principles of brain-based learning, as well as diversity and multiculturalism, the course provides defensible choices in your apprenticeship and professional practice. You will participate in seminars and observe 10 hours of classroom instruction in the field. Co-requisite: SPED 455. (3, 3T+0L)

455 THE SPECIAL EDUCATION PROGRAM: IEP’s AND ASSESSMENTS  This course addresses the planning and implementation of effective program for exceptionalities, least restrictive environments, classroom management, human growth and development, and transition. Major components include assessment and evaluation, diagnostics, placement and the Individual Education Plan (IEP). Co-requisite: SPED 401. (4, 4T+0L)

465 READING FOR SPECIAL LEARNERS  Provides you with learning experiences in the diagnosis and analysis of reading difficulties and how to adapt materials for various disabilities of the exceptional learner. You will focus on experiences in developing and implementing appropriate instructional strategies in teaching reading across the curriculum. Selection and adaptability of instructional materials are highlighted with the use of technological products for specific populations. You will participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

475 CURRICULUM METHODS AND MATERIALS FOR SPECIAL EDUCATION  You will focus on teacher knowledge and application skills in teaching curricula aligned with state content standards and benchmarks. You will explore areas of individualized modifications and/or accommodations when the general education curriculum is not appropriate. You will address instructional strategies in meeting the needs of the special learner with transition as a major component, with emphasis on the application of technology to support teaching and learning. You will address and integrate the Individual Education Plan (IEP) throughout the learning process. You will participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: SPED 401 and passing NES, Essential Academic Skills (I, II, III). (Cross-listed with ED 475). (3, 3T+0L).

485/515 TEACHING READING IN SPECIAL EDUCATION  Provides you with a conceptual framework for teachers in the development of competencies in the diagnosis and teaching of reading for the exceptional learner. This course will also provide experiences to understand and incorporate evidence-based research into the teaching of reading. You will acquire an understanding of reading assessments, including informal reading inventories, running records, miscue analysis and standardized reading assessments. You will also address skills in adaptive instructional strategies with an integrative approach across the curriculum. You will also participate in seminars and observe 10 hours of classroom instruction in the field. Prerequisite: passing NES, Essential Academic Skills (I, II, III). (3, 3T+0L)

497 SUPERVISED FIELD EXPERIENCE  Provides you with experience in portfolio preparation and interaction with students in exploring and discussing professional ethics and issues in Special Education. You will prepare and complete a portfolio representing experiences in the 20 credit hour program. Prerequisite: Passing NES, Essential Academic Skills (I, II, III); Co-requisites: Passing remaining NES Assessments required by the New Mexico Public Education Department (Competency, Content Knowledge and Reading if applicable.) (Cross-listed with ED 496). (1, 1T+0L)

497L SUPERVISED FIELD EXPERIENCE LAB  Provides you with hours of supervised field experience in an educational setting under the supervision of a certified Special Education teacher and resource specialists. Your experiences will encompass the special education program addressing Special Education level competencies in parent/professional commu-
nication skills, planning and implementing effective programs, least restrictive environment, individual educational planning, assessment and evaluation, curriculum development and implementation, technology, classroom management, and accommodating strategies to meet the diversity of the exceptional learner. Requires 100 (75 clock hours +25 Assessment and Accountability Framework hours). Interaction with students on a one-to-one basis and in small group settings is provided. Prerequisite: passing NES, Essential Academic Skills (I, II, III). Co-requisites: Passing remaining NES Assessments required by the New Mexico Public Education Department (Competency, Content Knowledge and Reading if Elem) (Cross-listed with ED 496L). (3, 0T+3L)

**SPEECH (SPCH)**

130  **PUBLIC SPEAKING** Principles of rhetorical theory as applied in public speaking situations: audience analysis, content, organization, style, verbal and non-verbal expression, and critical listening. You will deliver various speeches following selected rhetorical modes. Prerequisite: ENG 109N. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area I Communications (NMCCN COMM 1113)

**THEATRE (THE)**

All studio courses may be repeated without penalty; however, no course may be counted more than once toward graduation requirements.

120  **INTRODUCTION TO THEATRE I** This course provides an overview of the Theatre Arts from its prehistoric origins through Western and non-Western cultures to the present, and an introduction to the practical applications of theatre. You will explore the physical realities of creating theatre as a living art form, including lighting, set design, costuming, and stage make-up. (3, 3T+0S) Meets New Mexico Lower Division General Education Core Curriculum Area V Humanities and Behavioral Sciences (NMCCN THTR 1013)

122  **ACTING I** You will explore acting styles and techniques of major historical periods through individual scene study, using a variety of acting exercises to develop a personal acting theory, style, and method. (3, 1T+2S)

124  **ACTING FOR THE CAMERA** You will be exposed to specialized acting techniques for the camera in film, TV, and commercials. You will study terminology, lighting, auditioning, cold-reading, scene study, and working with a partner, as well as preparing a resume with an 8”x10” headshot. (3, 2T+1S)

126  **SPEECH AND MOVEMENT FOR THEATRE** This course will help you develop the articulation, clarity and projection of speech for theatre; focuses on movement on stage for dramatic and theatrical performances. (2, 1T+1S)

130  **HISTORY OF THEATRE** This course provides you with an in-depth study of a theatre topic and its place in theatre history through the reading of plays. May be repeated, as topics vary from term to term. Prerequisite: ENG 109N. (3, 3T+0S)

132  **STAGECRAFT** You will learn stage carpentry, foam carving, prop construction, safety in the theatre, paint techniques for the stage, rigging, and hardware. (3, 2T+1S)

134  **INTRODUCTION TO COSTUMING** Introduces you to basic design principles, color theory, sewing machine and hand-stitching, fabric/light concepts, and play analysis leading to costing a stage production. (2, 1T+1S)

150  **STAGE PRODUCTION** A practicum in producing a theatrical performance. You may choose to be involved in any aspect of technical theatre, including lights, sounds, crew,
THEATRE

costumes, or you may choose to perform in the production. Laboratory covers the rehearsal period of the show. (2, 0T+2S)

196  INTRODUCTION TO LIGHT AND SOUND FOR THE THEATRE  You will be introduced to performance light and sound, including the theory of light and color for stage lighting and to sound support for live performances. You will have hands-on experience in mounting a show from conception to a fully-realized production. (3, 2T+1S)

218  ACTING II  You will be involved in an intensive study of the techniques involved in building and developing a characterization, with emphasis on sub-textual work and play analysis. Prerequisite: THE 120. (3, 1T+2S)

220  INTRODUCTION TO THEATRE II  Continuation of background and working knowledge of theatre, acting, dramatic techniques, and production costuming. Prerequisite: THE 120. (3, 3T+0S)

224  PLAYWRITING  You will study character development, scene structure and narrative theory in the process of developing a stage and/or screen script; includes reading of published scripts. Prerequisite: ENG 109N. (3, 2T+1S)

225  CREATIVE AND THERAPEUTIC DRAMA TECHNIQUES FOR THE CLASSROOM K-12  Designed for Education and Human Services majors, this course will present techniques of creative dramatics for use in the classroom and/or counseling situations. You will be exposed to the study of psychodrama and the therapeutic uses of role-play, as well as being exposed to theatre games, exercises and improvisation, as adapted to various curricula for K-12 (science, social studies, math, language arts, etc.). You will participate in creative drama activities and have the opportunity to lead a group using the learned techniques in that group’s curriculum field (Cross-listed as PSY 225). Prerequisite: ENG 109N. (3, 3T+0S)

226  DIRECTING AND PLAY PRODUCTION  You will learn the fundamental techniques and theories of stage direction. Prerequisite: THE 120 and 122 (2, 1T+1S)

228  PERFORMANCE POETRY  You will study reading, writing, and performing poetry, with an emphasis on the personal and political aspects of poetry from the 1960s to the present, including the Poetry Slam movement. (3, 2T+1S)

238  TEATRO CHICANO  You will read and discuss contemporary Chicana/o playwrights, with encouragement to explore self-identity through cultural identity. You will develop a definition of Chicanism and Chicano aesthetic, and write personal pieces expressing cultural heritage and identity. Prerequisite: ENG 109N. (3, 3T+0S)

250  STAGE MANAGEMENT  You will focus on professional stage manager duties, including responsibilities for actors, calling cues during production, all technical production, and compiling the Production Book. Prerequisite: THE 120. (2, 1T+1S)

282  ACTING III: SCENE STUDY  You will continue your study of acting developed in THE 122 and 218 through an in-depth study of characters in two- or three-character scenes. The class will culminate in a performance. Prerequisites: THE 218. (3, 2T+1S).

290  DESIGN FOR THE THEATRE  You will explore drafting, model building, rendering, play analysis, styles, ornament, and CAD. Your goal will be to develop a real design onstage through the Stage Production lab and through portfolio development. Prerequisite: THE 150. (3, 2T+1S)

296  ADVANCED LIGHT AND SOUND FOR THE THEATRE  Although you will have some practical hands-on crew work in this class, you will primarily focus on design, theory, physics, and concepts of the art of performance lighting and sound. Prerequisite: THE 196. (3, 2T+1S)
VITICULTURE AND ENOLOGY (VIN)

VIN 105  MOLECULAR PRINCIPLES OF GRAPE AND WINE  This course’s emphasis on chemical fundamentals, organic, biochemistry, and applications with a particular focus on the grape and wine industry. Recommended for students needing one semester of general chemistry as a Prerequisite for VIN 268 Wine and Must Analysis. Students not meeting the Prerequisite must have permission by department to enroll. Prerequisites: None. (4T)

VIN 111  INTRODUCTION TO VITICULTURE AND VINEYARD ESTABLISHMENT. This course is designed to introduce students to viticulture in general and to current practices for establishing a commercial vineyard. Topics covered include varietal selection, site preparation, equipment, site selection, first season establishment, vine growth development and training, trellis systems, weed control, vine disease control, and pruning for training purposes. Students are required to partner with an approved vineyard to participate in the required field experience portion of the course. Prerequisites: None. (3T)

VIN 112  BOTANICAL VITICULTURE  This course is a survey of the plant kingdom, including plant cells and tissues, the ecology, morphology, physiology and life cycles of representative plants of each division. In addition, this course will focus communication on grapevine biology, vine structures and their functions. Prerequisite: None. (3T, 1L)

VIN 113  WINTER VITICULTURE TECHNOLOGY  This course is designed to provide students initiated in the field of viticulture practical experience in winter vineyard operations. Students are required to partner with an approved vineyard to participate in the required field experience portion of the course which will serve as work experience for those seeking employment in commercial viticulture. Prerequisite: Introduction to Viticulture and Vineyard Establishment – VIN 111 or permission. (2T)

VIN 114  SPRING VITICULTURE TECHNOLOGY  This course is designed to provide students initiated in the field of viticulture practical experience in spring vineyard operations. Students are required to partner with an approved vineyard to participate in the required field experience portion of the course which will serve as work experience for those seeking employment in commercial viticulture. Prerequisite: Introduction to Viticulture and Vineyard Establishment-VIN 111 or permission (2T)

VIN 115  SUMMER/FALL VITICULTURE TECHNOLOGY  This course is designed to provide students initiated in the field of viticulture practical experience in summer/fall vineyard operations. Students are required to partner with an approved vineyard to participate in the required field experience portion of the course which will serve as work experience for those seeking employment in commercial viticulture. Prerequisite: Introduction to Viticulture and Vineyard Establishment–VIN 111 or consent of the instructor or Winter/Spring Viticulture Technology – VIN 113 (recommended). (2T)

VIN 146  INTRODUCTION TO ENOLOGY  This is an introductory course in the basic science and technology of winemaking. It is intended for the entrepreneur exploring business opportunities in the grape wine industry, and/or the prospective small winery employee interested in career development. The home winemaker that has never undergone any formal training on the subject may also benefit from this basic course. Students will make wine at home from a kit, track fermentation, make various chemical measurements and provide one bottle of finished wine to the instructor for evaluation at the conclusion of the course. Students must be 21. Prerequisite: None. (3T).

VIN 147  FRUIT WINE PRODUCTION  This course will cover the history of fruit wine making, starting a fruit winery, production processes, quality control, faults and flaws, stability tests, marketing and sales, and legal regulations. Students will get an understanding of the
special idiosyncrasies of the various fruits available to make commercial grade fruit wine. *Prerequisite:* VIN 146–Introduction to Enology. (2T).

**VIN 148 WINERY SANITATION** This is a course in the basic science and technology of winery sanitation. The course serves as an introduction to wine microbiology and covers all methods used for winery sanitation including premises, tanks, pumps, filters, oak barrels and sampling equipment, including but not limited to chemical agents, reagents, and thermal treatments leading to sterile bottling. Environmental issues and compliance are also addressed. *Prerequisite:* VIN 146–Introduction to Enology. (3T).

**VIN 160 WINERY EQUIPMENT OPERATION** This course covers process technologies and process systems that are used in modern commercial wineries. The course will include lectures, demonstrations and two day workshop. Overview of winemaking systems including winemaking operations and equipment, barrel aging and barrel management, membrane separation processes, specialized contacting systems, cleaning and sanitation systems, process control systems, refrigeration systems, air conditioning and humidity systems, electrical systems, waste water systems, solid waste handling, and work place safety. *Prerequisite:* VIN 146–Introduction to Enology (recommended) or permission.

**VIN 190 VITICULTURE SAFETY** An introduction to safety and procedures specific to viticulture (grape growing). This course will include general history of agricultural safety and health issues, ergonomics, OSHA safety rules and safety issues and concerns. *Prerequisite:* None. (1T).

**VIN 200 INTRODUCTION TO WINERY LAW** This course will introduce students to the general concepts and issues relating to the creation and operation of a winery. The course will explain general legal concepts, outline business formation and operation concepts discuss governmental agencies and regulation and describe legal issues and areas specifically related to the operation of a winery. *Prerequisite:* None. (3T).

**VIN 210 INTRODUCTION TO WINE MICROORGANISMS** This course is an introduction to the variety of microorganisms frequently encountered in the wine making process but beneficial and harmful. Topics include identification, physiology, morphology and biochemistry of various wine microorganisms. *Prerequisite:* None. (3T)

**VIN 211 INTEGRATED PEST MANAGEMENT** Effective grape production depends on the grower developing a system of grape management that is appropriate for each vineyard. Decisions need to be made for how to manage all of the normal cultural practices such as planting, fertility, harvesting, and pruning as well as managing the insect, disease, and weed problems that occur either regularly or sporadically. The information in this course will address management issues related to common, expected pest problems as well as the occasional appearance of minor pest problems. *Prerequisite:* None. (2T)

**VIN 213 REGIONAL VINEYARD MANAGEMENT** This course is a study of commercial grape growing in the Midwest of the United States. Topics include cultivars, vine nutrition, irrigation, canopy management, pests, maturity sampling and harvest, balanced pruning/cropping and cold injury. *Prerequisite:* VIN 111 VIN 113 or permission. (2T)

**VIN 246 INTERMEDIATE ENOLOGY** This course in the science and technology of winemaking is intended for the experienced intermediate winemaker, the winery employee interested in career development, or the advanced home winemaker that is seeking new challenges. Basic organic chemistry, microbiology, and some mathematics familiarity are recommended. *Prerequisite:* VIN 146 or permission. (2T)

**VIN 257 FALL WINE PRODUCTION INTERNSHIP** This course is designed for the individual anticipating a career in the wine industry. This course (internship) is designed to
provide a student who has completed major course sequences with an intense level of practical and realistic winery operation experiences, sufficient to equip him/her with sufficient skills and work experience for an entry-level position in the wine industry. Students involved in this program will participate in a full time Crush Season internship at a supporting winery, and are expected to use the time and opportunities to further their understanding of the winemaking process and common winery operations. **Prerequisite:** VIN 146, VIN 148, VIN 160, VIN 246 or permission

**VIN 259 CELLAR OPERATIONS TECHNOLOGY** This course is designed to provide students initiated in the field of enology with actual and practical exposure to the technology of wine making as is performed during the passive vineyard periods associated with winter. The student is expected to improve his understanding of the methods and science involved by on-site participation in each of the various activities associated with finished wine production. The course is designed to serve as actual practical exposure and may qualify as experience for those seeking employment in commercial enology. **Prerequisite:** VIN 257 or permission. (2T)

**VIN 266 SENSORY EVALUATION** This is a course intended for those individuals who need to develop an understanding of the principles of sensory evaluation used in commercial wine making. It will also be of benefit to the wine enthusiast who is interested in reaching advanced levels of appreciation as well as to the producer, the wine merchant, and ultimately the enologist, who by the nature of their profession need to discern flavors and establish tasting benchmarks. Students will utilize sensory kits and workshops to further their sensory evaluation skills and techniques. Students must be 21. **Prerequisite:** VIN 146 or permission. (3T)

**VIN 268 WINE AND MUST ANALYSIS** Principles of grape juice and wine analysis and the reasons for use of each analysis. Analyses of a practical and useful nature are chosen for the laboratory exercises demonstrating various chemical, physical and biochemical methods. Students will participate in workshops and hands-on experiences at participating wineries. **Prerequisite:** VIN 146 and CHM 105 or permission. (3T)

**VIN 270 MARKETING FOR THE SMALL WINERY** This course explores the marketing strategies for small wineries. During the course, students will build a basic understanding of different aspects of marketing such as label design and packaging, tasting room promotion, and general marketing principles. It will also introduce various marketing channels including, social media, e-mail, word-of-mouth, and winery web sites. (2T)

**VIN 272 WINERY TASTING ROOM MANAGEMENT** This course will explore all aspects of managing a winery tasting room. It will cover topics such as tasting room “look and feel,” merchandizing, customer service, customer relationships, sales opportunities, sensory evaluation, staff training and the importance of leadership. The focus will be on customer service and customer loyalty. (2T)

**VIN 274 WINES OF THE WORLD** This is a course intended for those individuals who wish to further their understanding of wine styles and builds on the knowledge developed in VIN 266, Sensory Evaluation. It is appropriate for commercial winemakers who wish to understand how the wines that they produce compare and contrast with the most popular and important wine styles around the globe. It will also be of benefit to the wine enthusiast who is interested in reaching advanced levels of appreciation and an understanding of global benchmarks. Students will practice sensory analysis at home to further their sensory evaluation skills and techniques. **Prerequisite:** VIN 266 or permission. (3T)

**VIN 290 WINERY SAFETY** An introduction to safety and procedures specific to enology (wine making.) This course will include general history of food and beverage safety and
WELDING

- Health issues, ergonomics, OSHA safety rules and safety issues and concerns specific to the winery. (2T)

VIN 293 SOILS FOR VITICULTURE The course will explore soil properties and behavior and their influence on wines. The course focuses not only on growth and production, but on the long-term effects of viticulture on soil quality and the wider environment. (3T)

WELDING (WELD)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>INTRODUCTION TO WELDING</td>
<td>Shop and personal safety, different welding processes, different metals, and basis of metal identification and analysis. (3, 3T+0S)</td>
</tr>
<tr>
<td>111L</td>
<td>FUNDAMENTALS OF OXYACETYLENE WELDING</td>
<td>Lighting, adjusting, and turning off oxyacetylene cutting outfit, safety precautions, tools and equipment; ninety-degree cuts, level cuts, and cutting holes in mild steel. (3, 0T+3S)</td>
</tr>
<tr>
<td>112L</td>
<td>FUNDAMENTALS OF ARC WELDING</td>
<td>Three types of arc welders, straight and reverse polarity, selection of correct electrode, starting, stopping, and restarting of bead; construction of pad in flat position and of square groove butt weld. (3, 0T+3S)</td>
</tr>
<tr>
<td>120L</td>
<td>OXYACETYLENE WELDING</td>
<td>Cutting, fusion, and braze; selection of welding tips, and demonstration of ability to carry a puddle; distinction between braze and fusion, and application of flux. (3, 0T+3S)</td>
</tr>
<tr>
<td>121L</td>
<td>ARC WELDING</td>
<td>Different types of arc welders, polarity, beads, and E-6010 and E-7018 electrodes; construction of test plates in all positions. (3, 0T+3S)</td>
</tr>
<tr>
<td>122L</td>
<td>INERT GAS WELDING</td>
<td>GTAW process; identification of applications, advantages of the process, and identification of major parts of equipment; fuller metals and metallurgical properties of base metals; setting up equipment and production of welds on the popular metals in the flat through vertical positions on the common joints. (3, 0T+3S)</td>
</tr>
<tr>
<td>130</td>
<td>HANDS-ON WELDING</td>
<td>The principles and practice of welding basics, usually offered periodically on a short-term basis. (2, 1T+1S)</td>
</tr>
<tr>
<td>150</td>
<td>APPLIED METALLURGY</td>
<td>Application of metallurgical concepts, procedures, and testing. Includes materials, alloy classification systems, industrial and manufacturing concepts, properties and testing, and industrial and manufacturing processes and applications. (Fall, Spring, Summer) (4, 2T+2S)</td>
</tr>
<tr>
<td>210</td>
<td>WELDING BLUEPRINT READING</td>
<td>Identification of information contained in a blueprint: the view, size, and dimensions, drawing or pictorial view and three-view sketches of a specified rectangular block. (3, 3T+0S)</td>
</tr>
<tr>
<td>211L</td>
<td>PRACTICAL ARC LAB</td>
<td>Practical use of ARC equipment; projects assigned according to the skill of the welder. (3, 0T+3S)</td>
</tr>
<tr>
<td>212L</td>
<td>PRACTICAL OXYACETYLENE LAB</td>
<td>Practical use of oxyacetylene equipment; projects assigned according to the skill of the welder. (3, 0T+3S)</td>
</tr>
<tr>
<td>213L</td>
<td>PRACTICAL INERT GAS LAB</td>
<td>Practical use of inert gas equipment; projects assigned according to the skill of the welder. (3, 0T+3S)</td>
</tr>
<tr>
<td>295</td>
<td>WELDER QUALIFICATION CAPSTONE</td>
<td>Students will demonstrate their mastery of welding through a series of qualification technique sheets and acceptance by welding certification testing lab (Albuquerque, NM). All Technique sheets meet or exceed minimal requirements for positions as requested by LANL. Prerequisites: WELD 120L, 121L, 122L, 211L, 212L, &amp; 213L (Fall, Spring, Summer) (1-3, 0T+1-3S)</td>
</tr>
</tbody>
</table>
299  **COOPERATIVE EDUCATION FIELD EXPERIENCE**  Employment in an approved work-related experience following individualized learning objectives. Forty-eight (48) work hours are required to earn one semester hour of credit. Students may earn up to five credit hours. Students are evaluated jointly by program faculty and employer on a CR/NC basis.  
*Prerequisite:* permission of instructor. (2-5)

### WILDLAND FIRE SCIENCE (WFS)

130  **BASIC WILDLAND FIREFIGHTER TRAINING**  (Includes S-190, L-180 and I-100)  Provides entry level firefighting skills such as safety orientation, firefighter preparedness, tools and equipment, firing devices, use of water suppression, securing the control line, use of maps, scouting, hazardous materials, and standards for survival. Primary environmental factors that start and affect the spread of wildfires, and the recognition of potentially hazardous situations are introduced. Forty classroom hours and eight field experience hours are presented over six days for three credits. (3, 2.5T+.5S)

131  **ADVANCED FIREFIGHTER TRAINING (S-131)**  A classroom course that is interactive and contains several exercises designed to meet the training needs of the FFT1. With completion of S-131 the student will be able to demonstrate the ability to use fire line reference tools to facilitate the communication and decision making processes, describe how to incorporate and maintain open lines of communication with appropriate personnel, demonstrate the ability to apply the SOP’s found in the incident Response Guide and demonstrate the ability to apply information found in the Fire Line Handbook.  
*Prerequisite:* is WFS 130 with a grade of C or better. It is a one day, .5 credit-hour course with 8 hours classroom contact. (.5, .5T+0S)

134  **LOOKOUTS, COMMUNICATIONS, ESCAPE ROUTES, SAFETY ZONES**  WFS 134 is an instructor-led course that introduces the student to an important Standard Operating Procedure (SOP) in the wildland fire environment. LECS is the key to safe procedures for firefighters.  
*Prerequisite:* is WFS 130 with a grade of C or better. The course is a 1 credit-hour course with 16 classroom contact hours scheduled over 2 days. (1, 1T+0S)

200  **INITIAL ATTACK INCIDENT COMMANDER**  This course is designed to meet the training needs of the ICT4. It is presented in a discussion/exercise format. The six instructional units cover: Foundation Skills; Intelligence Gathering and Documentation; Size Up the Incident; Develop a Plan of Action; Post-fire Activities; Evaluating Incident Objectives and Manage the Incident. This course is designed for 16 classroom contact hours.  
*Prerequisite:* WFS 130. (1, 1T+0s)

211  **PORTABLE PUMPS & WATER USE**  An instructor-led course designed to give students practical knowledge and application skills in water use/hydraulics. Upon successful completion the student will select equipment required to maintain flow of water as required by the incident; install pump, hose lays and holding tanks to provide water for use during all phases of the incident; and perform required field maintenance on a portable pump.  
*Prerequisites* are WFS 130, 131 with grades of C or better. WFS 211 is a 24 hour classroom course with eight field hours scheduled over four days and is a 2 credit-hour course. (2, 2T+0S)

212  **WILDLAND FIRE CHAINSAWS**  An instructor led course designed to give students practical knowledge and application skills of chain saw use. Upon successful completion of WFS 281 the student will list, define and apply chain saw safety standards as required by OSHA and NWCG agency manuals, handbooks, and directives; describe maintenance and function of PPE; identify basic chain saw parts, trouble shooting and safety features. Students will have a demonstration of chain use in felling, limbing, and bucking.  
*Prerequisite:* for the course is WFS 130, 131 with grades of C or better. Completion of course will not
WILDLAND FIRE SCIENCE

qualify the student as a certified faller. WFS 281 combines 40 classroom hours and 8 field hours scheduled over 6 days as a 3 credit-hour course. (3, 3T+0S)

215 FIRE OPERATIONS IN THE WILDLAND/URBAN INTERFACE This course is required training for single resource bosses, who are seeking certification as incident commander TYPE 4, strike team leader or company officer confronting wildfire that is presenting a threat to life and property. The course is designed to be interactive; it contains exercises, which facilitate student learning and class discussion. There are 8 units, which make up the course: interface awareness; size-up; initial strategy and action plan; structure triage; structure protection tactics; action plan assessment and update; follow-up and public relations; and firefighter safety in the interface. Prerequisite is WFS 230 with a grade of C or better. The course is designed for 40 classroom hours and 8 field hours and is a 3 credit-hour course scheduled over 6 days. (3, 2.5T+.55)

230 CREW BOSS This course introduces students to crew boss responsibilities prior to and during mobilization on the incident and during demobilization. It is a skill course to produce proficiency in the performance of all duties associated with the single-resource boss. Hazards and risks on various incidents will be identified and mitigation described. Tactics and strategy will be described that are appropriate to various wildland fire situations and how they are implemented through the chain of command. Several exercises are introduced to stimulate student involvement. Prerequisites: WFS 131 270, 290 and L-280 with a C or better grade in each course. The course is designed for 32 hours classroom contact plus 4 hours pre-work and is a 2 credit-hour course scheduled over 4 days. (2, 2T+0S)

231 ENGINE BOSS This is a skill course designed to produce student proficiency in the performance of the duties associated with engine boss, single resource (ENGB). Upon completion of this course students will be able to perform the tasks of an engine boss in meeting the tactical decisions required to safely manage his or her engine and personnel on an incident. Topics include: engine and crew capabilities and limitations, information sources, fire size up considerations, tactics and wildland/urban interface. Prerequisite is successful completion of S-230 (WFS 230) with a C or better grade. The course is designed for 16 classroom contact hours and is a 1 hour course scheduled over 2 days. (1, 1T +0S)

232 DOZER BOSS (S232) This is a skill course designed to meet the training needs of a Dozer Boss on an incident as outlined in the Position Task Book and PMS 310-1. Primary considerations are tactical use and safety precautions required to establish and maintain an effective dozer operation. Upon completion of this course the student will ensure that the dozer has been properly inspected and signed up, ensure the operator is qualified and properly signed up, determine the capabilities and limitations of the dozer and operator to perform an assignment and identify the actions required of the dozer boss to safely and effectively complete an assignment. Prerequisite: Fire Fighter Type 1. The course has 16 classroom contact hours and 4 field hours for 1.25 credit hours scheduled over 2 ½ days. (1.25, 1.25T+0S)

234 IGNITION OPERATIONS An entry level course that introduces and describes to students the role and responsibilities of single resource bosses, firing and prescribed fire ignition specialists their duties connected with firing operations. The course also identifies resources needed to successfully prepare an ignition operation for a wildland fire or prescribed fire. Students will develop an ignition plan demonstrating the knowledge of fire behavior, fire techniques, holding and hazards and given a scenario implement an ignition operation with emphasis on safety, coordination, communications and evaluation. Pre-course work is required that will take approximately 2-4 hours. Prerequisite is WFS 290 with a C or better grade. The course is designed for 32 classroom contact hours scheduled over 4 days and is a 2 credit-hour course. (2, 2T+0S)
260  INCIDENT BUSINESS MANAGEMENT  This course is targeted for entry-level single resource positions in operations, logistics and finance positions. The course meets the general training needs of all positions for which an understanding of interagency incident business management is required. Topics covered include: employee responsibilities and conduct, personnel timekeeping, pay and commissary, correct reporting procedures for traumatic injury/occupational disease, procurement and equipment time recording, property management, interagency agreements, and claims/accident investigation. This course neither sets policy, nor addresses every potential situation that may occur in all locations. **Prerequisite:** WFS 130 with a grade of C or better. The course is designed for 16 classroom contact hours and is a 1 credit-hour course scheduled over 2 days. (1,1T+0S)

261  APPLIED INTERAGENCY INCIDENT BUSINESS MANAGEMENT  This course is designed to provide students with prerequisite skill/knowledge to perform the tasks of entry-level finance positions, WFS 260 with a grade of C or better. The course is designed for 24 hours classroom contact hours scheduled over three days and is a 1.5 credit-hour course. (1.5, 1.5T+0S)

270  BASIC AIR OPERATION  This course introduces the student to uses of aircraft in fire suppression activities and provides trainees instruction on how to conduct themselves in and around aircraft. The course also provides instruction on management policy, regulations and procedures that govern agency aviation operations in fire suppression. Also covered is aircraft types, capabilities, safety, tactical and logistical uses of aircraft and requirements for helicopter take-off and landing areas. **Prerequisite:** WFS 130 with a grade of C or better. The course is designed for 6 hours’ classroom contact scheduled over 2 days and includes pre-course work. It is a 1 credit-hour course. (1, 1T+0S)

271  HELICOPTER CREWMEMBER  This course will provide basic skills and knowledge required for individuals working with helicopters during fire suppression activities. The course is a combined classroom and field course to provide trainee proficiency in all areas of the tactical and logistical use of helicopters. There are 3 different instructional topics involved in the course; helicopter capabilities and limitations, personal protective equipment, and will, skill and luck. Upon completion of the course the student will be able to demonstrate proficiency in all areas of helicopter use to safely achieve efficiency and standardization. **Prerequisite:** WFS 270 with a grade of C or better. The course is designed for 40 hours classroom contact with an 8 hour field day covering application of features covered in the classroom. It is a 3 credit hour course scheduled over 6 days. (3, 3T+0S)

280  FOLLOWERSHIP TO LEADERSHIP  (L-280) WFS 280 (L-280) is an introductory leadership course. It is designed as a self-assessment opportunity for individuals preparing to step into a leadership role. Subject areas include leadership values and principles, transition challenges for new leaders, situational leadership team building and ethical decision-making. **Prerequisite:** WFS 130 with a grade of C or better. L-280 involves 12 classroom hours, 4 hours of pre-course work and 8 field hours. It is a 1.5 credit hours course scheduled over two days. (1.5, 1.5T+0S)

290  FUNDAMENTALS OF FIRE BEHAVIOR  This course will provide basic skills designed to instruct prospective fire line supervisors in wildland fire behavior for effective and safe fire management operations. It is the second course in a series that collectively serve to develop fire behavior prediction knowledge and skills. The course provides more detailed information on the treatment of fuels, weather, and topography and a stronger basis for analyzing variables and their interactive effects on fire behavior. The course consists of twelve formal classroom units. In addition the course has a pre-course package with a pre-course test. **Prerequisite:** WFS130 with a C or better grade. The course is designed for 32 hours classroom contact and is a 2 credit hour course scheduled over 4 days. (2, 2T+0S)
SPECIAL COURSES

TOPICS (TP)

147, 247 Lower division courses in selected subject areas. When available they will be shown in the published Schedule of Classes with a specific descriptive title. No more than 6 credit hours of “TOPICS” courses may be applied toward completion of an associate degree or certificate. (1-6)

399, 499 Upper division courses in selected subject areas. When available they will be shown in the published Schedule of Classes with a specific descriptive title. No more than 6 hours of “TOPICS” courses may be applied toward completion of a baccalaureate degree. (1-6)

INDEPENDENT STUDY (IS)

248, 398, 498 Reserved for the outstanding student whose educational needs cannot be met within the traditional curriculum offerings. Individual work experience, research projects, or practicum may be used to earn credit through Independent Study. No more than 6 credit hours of Independent Study courses may be applied towards completion of an associate degree or certificate, or toward a baccalaureate degree (1-6)

Syllabi for all Special Courses must be on file at the Registrar’s Office prior to the first day of the semester in which the Topics or Independent Study course will be offered.
Administration, Faculty, and Staff

BOARD OF REGENTS
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Damian Martinez, Esq..........Vice President
Kevin F. Powers...............Secretary/Treasurer
Melinda DeHerrera ..........Member

CHIEF EXECUTIVE OFFICER
Nancy “Rusty” Barceló, PhD......President/Professor

CHIEF ACADEMIC OFFICER
Pedro Martinez, PhD ............Provost & Vice President for Academic Affairs

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Domingo Sanchez, BA............Vice President for Finance and Administration
Ricky Serna, MA.............Vice President for Institutional Advancement

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Anthony Sena, PhD ..............Dean, College of Arts and Sciences
Joaquín Vilá, PhD .............Dean, College of Education
Ellen Trabka, MSN............Dean, College of Nursing and Health Sciences
Lori Franklin, MA.............Chair, Humanities, Social Sciences, and Language and Letters
Karen Hall, EdD.............Interim Chair, Fine Arts
Ulises M. Ricoy, PhD........Chair, Biology, Chemistry, and Environmental Science
David Torres, PhD........Chair, Mathematics and Physical Science

ACADEMIC PROGRAM DIRECTORS
David Barton, PhD ..........Director, Humanities and Social Sciences
Karen Hall, EdD............Interim Director, Music Program
Ellen Trabka, MSN...........Director, RN to BSN Nursing Program
Theresa Lopez, MSN...........Director, Associate Degree Nursing Program
ADMINISTRATIVE DIRECTORS / COORDINATORS / MANAGERS

Johnna Aquino, AA . Coordinator, American Indian Affairs
Julianna Barbee, MA . Director, Small Business Development Center
Deborah Begel, MFA . Director, Writing Center
Tobe Bott-Lyons, BA . Interim Director, Institutional Advisement
Barbara Bustos, MBA . Director, Educational Opportunity Center (EOC)
Ryan Cordova, BA . Athletics Director, Head Men’s Basketball Coach
Kenneth Dvorak, PhD . Director, Center for Distance Learning
Brooke Espinosa . Student Life Coordinator
Sandy Krolick, MA . Creative Director, Communications & Marketing
David Lindblom, BA . Creative Director, Canal Seis
Tessie Lopez Trujillo, AAS . Payroll Manager
Connie Manzanares, AAS . Assistant Director, Financial Aid
Joe Martinez, BA . Administrative Software Manager
Matthew Martinez, PhD . Director, Northern Pueblos Institute
Carla Montoya, MBA . Grants Manager
Terry Mulert, MA . Executive Director,
Northern New Mexico College Foundation
Frank Orona, BA . Director, Admissions
Jacob Pacheco, BA . Director, Financial Aid
Bernie Padilla . Director, Human Resources
Andy Romero . Physical Plant Supervisor, Española
Carmella Sanchez, MS . Director, Institutional Research
Kathleen F. Sena, BA . Registrar, Dean of Students
Shari Jobe, BS . Director, Adult Basic Education
Jimi Montoya . Director, Information Technologies
Peter Snyder, BS . Coordinator, Distance Education
Henrietta Trujillo, BBA . Director, Financial Operations
Tamara Trujillo, MA . Coordinator, ALP Programs, College of Education
Patricia Trujillo, PhD . Director, Diversity and Equity
Verna Trujillo, MA . Coordinator, Accessibility Resources Center
Stephanie Vigil-Roybal, MA . Director, College Assistance Migrants Program
FULL-TIME FACULTY

**Claudia Aprea, Associate Professor**  
University of Washington-Seattle: PhD, 1996

**Stephanie Amedeo-Marquez, Assistant Professor**  
University of New Mexico: PhD, 1985

**Lori Baca, Associate Professor**  
University of Phoenix: D.B.A., 2014

**David Barton, Associate Professor**  
Pacifica Graduate Institute: PhD, 2006

**John Buksa, Assistant Professor**  
University of New Mexico: MBA, 1986

**Marcos Cavalcante, Associate Professor**  
Indiana University: PhD, 1999

**Rose Cavalcante, Associate Professor**  
Indiana University: PhD, 1998

**Pedro Chavarria, Assistant Professor**  
Texas A&M University: PhD, 2013

**Jorge Crichigno, Associate Professor**  
University of New Mexico: PhD, 2009

**Betty Espinoza, Technical Assistant Professor**  
Northern New Mexico Community College: AAS, 1995

**Christina Esquibel, Associate Professor**  
University of New Mexico: EdS, 2000

**Lori Franklin, Associate Professor**  
California State University: MA, 1989

**Joaquin Gallegos, Assistant Professor**  
New Mexico State University: MS, 2007

**Lucas Gonzales, Associate Professor**  
University of New Mexico: MSN, 2011

**Karen Hall, Assistant Professor**  
Columbia University: EdD, 2006

**Cappie Hausman, Associate Professor**  
University of New Mexico: MSN, 2010

**Darlene Hess, Assistant Professor**  
University of New Mexico: PhD, 1995

**Ajit Hira, Associate Professor**  
University of Texas–Arlington: PhD, 1990
Jee Hwang, Assistant Professor  
University of New Mexico: PhD, 2014

Raj Inder Kaur Khalsa, Assistant Professor  
University of Texas: MSN, 2002

Mario Izaguirre-Sierra, Assistant Professor  
John Innes Center, East Anglia University: PhD, 2009

Pamela Lapcevic, Associate Professor  
New Mexico Highlands University: MA, 2009

Brenda Linnell, Assistant Professor  
University of Texas–El Paso: PhD, 2011

Ivan Lopez, Associate Professor  
University of New Mexico: PhD, 2008

Theresa Lopez, Associate Professor  
University of New Mexico: MSN, 2007

Matthew J. Martinez, Associate Professor  
University of Minnesota: PhD, 2008

Pedro Martinez, Professor  
Loyola University: PhD, 1987

Vishal Mehta, Assistant Professor  
New Jersey Institute of Technology: PhD, 2010

Ashis Nandy, Assistant Professor  
Pennsylvania State University: PhD, 2012

Veronica O’Halloran, Instructor  
University of New Mexico: MSN Ed., 2014

Raul Peralta, Lecturer  
University of New Mexico: MS, 2007

Kristy Pruitt, Assistant Professor  
Walden University: EdD, 2009

Ulises M. Ricoy, Associate Professor  
University of Texas San Antonio: PhD, 2007

Travis R. Robbins, Assistant Professor  
University of South Florida: PhD, 2010

Anthony Sena, Professor Emeritus  
University of New Mexico School of Medicine: PhD, 2005

Karen Simpson, Assistant Professor  
University of Pittsburgh: MBA, 1989
Katie Tomarelli, Assistant Professor
Rush University: MSN, 2013

David Torres, Associate Professor
University of New Mexico: PhD, 1996

Ellen Trabka, Associate Professor
University of Massachusetts-Lowell: MSN, 1995

Patricia Trujillo, Associate Professor
University of Texas-San Antonio: PhD, 2008

Elaine Valdez, Instructor
Northern New Mexico Community College: Cert, 1988

Ana Vasilic, Assistant Professor
University of Delaware: PhD, 2009

Joaquín Vilá, Associate Professor
Michigan State University: PhD, 1991

Heather Winterer, Associate Professor
University of Nevada–Las Vegas: PhD, 2007

FACULTY AND STAFF EMERITUS

Cora Abeyta, Certificate
Instructor Emeritus of Cosmetology, 1977-1983

Jose Griego, PhD
President Emeritus, 2005-2009

Sigfredo Maestas, PhD
President Emeritus, 1996-2005

Anthony Sena, PhD
Professor Emeritus, 2015

Priscilla C. Trujillo, MA
Executive Vice-President Emeritus, 1996-2003

Levi Valdez, MA
Dean Emeritus, Continuing Education and Community Services, 1996-2001
Academic Calendar 2015-2016

FALL 2015

Deadline for Degree & Certificate Students to Submit an Application for Fall 2015 .................................................. Fri., Aug. 7

PAYMENT DEADLINE: pay in full, or 10% down + payment plan, or be disenrolled .......................................................... Fri., Aug. 7

Deadline for Non-Degree Students to Submit Application for Fall 2015 ............................................................ Fri., Aug. 14

Convocation ................................................................................ Mon., Aug. 10

First Day of book charges through the Bookstore .................................................................................. Mon., Aug. 10

CLASSES BEGIN .............................................................................. Mon., Aug. 17

Late Registration – $35.00 Late Registration Charge ................................................ Mon., Aug. 17-Fri., Aug. 21

Last Day to Change Full-Term Course Schedule (Drops/Adds only) ........................................ Fri., Aug. 21

Last Day to Change on Account (Financial aid-dual credit-3rd party) ........................................ Fri., Aug. 21

Last Day to Receive 100% Refund for Texts through the Bookstore ........................................ Fri., Aug. 28

Last Day to Change Grade Option from CR-AU/AU-CR ................................................................. Fri., Aug. 28

Last Day to Drop from a Full-Term Course with a Refund .......................................................... Fri., Aug. 28

Last Day to Receive 50% Refund for Texts through the Bookstore ........................................ Wed., Sep 2

Last Day to Drop from a Full-Term Course without Record ......................................................... Fri., Sept. 4

Holiday (Labor Day) College Closed, No Classes ................................................................. Mon., Sept. 7

Mid-Term Week ........................................................................ Mon.-Fri., Oct. 5-9

Mid-Term Grades Due ...................................................................... Wed., Oct. 14

Last Day for Instructors to Initiate a Withdrawal ................................................................. Fri., Oct. 23

REGISTRATION FOR SPRING 2016 BEGINS ............................................. Mon., Oct. 26

Last Day to Withdraw from a Full-Term Course .......................................................... Fri., Nov. 6

Holiday (Veterans Day) College Closed, No Classes ....................................................... Wed., Nov. 11

Thanksgiving Break ........................................................................ Mon.-Sun., Nov. 23 - Nov. 29

Final Exams* ................................................................................ Sat.-Fri., Dec. 5-11

Commencement Rehearsal................................................................. Thursday, Dec. 10

*Exam make-up days in case of bad weather. ........................................................................ Fri.-Sat., Dec. 11-12

Last Day of Term ........................................................................... Fri., Dec. 11

SUMMER & FALL 2015 COMMENCEMENT CEREMONY ..................... Sat., Dec. 12

Final Grades Due ........................................................................... Mon., Dec. 14

Winter Break ................................................................................ Mon., Dec. 21-Fri., Jan. 1

SPRING 2016

Deadline to Petition to Graduate in Spring 2016 ................................................................. Fri., Jan. 29

Deadline for Degree & Certificate Students to Submit Admissions Application for Spring 2016 ...................................................................... Fri., Jan. 8

PAYMENT DEADLINE: pay in full, or 10% down plus a payment plan, or be disenrolled .......................................................... Fri., Jan. 8

Convocation ................................................................................ Mon., Jan. 11

First Day for book charges through the Bookstore .................................................................. Mon., Jan. 11

Deadline for Non-Degree Students to Submit an Admissions Application for Spring 2016 ...................................................................... Fri., Jan. 15

Holiday (Martin Luther King Jr’s Birthday) ........................................................................ Mon., Jan. 18

www.nnmc.edu
### Registration for Spring 2016

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<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>SPRING CLASSES BEGIN</td>
<td>Mon., Oct 26 - Mon., Jan. 18</td>
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<tr>
<td>Late Registration –$35.00 Late Registration Charge</td>
<td>Tues., Jan. 19 - Fri., Jan. 22</td>
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<tr>
<td>Last Day to Change Full-term Course Schedule (Drops/Adds only)</td>
<td>Fri., Jan. 22</td>
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<tr>
<td>Last Day to Charge on Account (Financial aid-dual credit-3rd party)</td>
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<td>Last Day to Receive 100% Refund for Text through the Bookstore</td>
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<td>Last Day to Drop a Full-Term Course with a Refund</td>
<td>Fri., Jan. 29</td>
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<tr>
<td>Last Day to Receive a 50% Refund for Text through the Bookstore</td>
<td>Wed., Feb. 3</td>
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<tr>
<td>Last Day to Drop a Full-Term Course without Record</td>
<td>Fri., Feb 5</td>
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<tr>
<td>Mid-Term Week</td>
<td>Mon.-Fri., March 7-11</td>
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<tr>
<td>Mid-Term Grades Due</td>
<td>Wed., March 16</td>
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<tr>
<td>Spring Break</td>
<td>Mon.-Sun., March 14-20</td>
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<tr>
<td>Holiday (Good Friday) College Closed, No Classes</td>
<td>Fri., March 25</td>
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<tr>
<td>Last Day for Instructors to Initiate a Withdrawal</td>
<td>Fri., April 1</td>
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<tr>
<td>Last Day to Withdraw from a Full-Term Course</td>
<td>Fri., April 15</td>
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<tr>
<td>REGISTRATION FOR SUMMER AND FALL 2016 BEGINS</td>
<td>Mon., April 18</td>
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<tr>
<td>Final Exams*</td>
<td>Sat.-Fri., May 7-13</td>
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<tr>
<td>Commencement Rehearsal</td>
<td>Thurs., May 12</td>
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<tr>
<td>Last Day of Term</td>
<td>Fri., May 13</td>
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<tr>
<td>*Exam make-up day in case of bad weather</td>
<td>Fri., May 13</td>
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<tr>
<td>COMMENCEMENT CEREMONY</td>
<td>Sat., May 14</td>
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<tr>
<td>Final Grades Due</td>
<td>Mon., May 16</td>
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### SUMMER 2016

<table>
<thead>
<tr>
<th>Event</th>
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<tbody>
<tr>
<td>Deadline to Petition to Graduate in Summer 2016</td>
<td>Fri., July 15</td>
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<tr>
<td>Deadline for Degree &amp; Certificate Students to Submit Admissions Application for Summer 2016</td>
<td>Fri., May 27</td>
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<tr>
<td>PAYMENT DEADLINE: pay in full, or 10% down plus payment plan, or be disenrolled</td>
<td>Fri., May 27</td>
</tr>
<tr>
<td>First Day of book charges through the Bookstore</td>
<td>Tues., May 31</td>
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<tr>
<td>Deadline for Non-Degree Students to Submit an Admissions Application for Summer 2016</td>
<td>Fri., June 3</td>
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<tr>
<td>REGISTRATION</td>
<td>Mon., April 18 – Sun., June 5</td>
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<tr>
<td>CLASSES BEGIN</td>
<td>Mon., June 6</td>
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<tr>
<td>Last Day to Change Full-term Course Schedule (Drops/Adds only)</td>
<td>Wed., June 8</td>
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<tr>
<td>Last Day to Change Grade Option from CR-AU/AU-CR</td>
<td>Fri., June 10</td>
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<tr>
<td>Last Day to Drop a Full-Term Course with 100% Refund</td>
<td>Fri., June 10</td>
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<tr>
<td>Last Day of Charges through the Bookstore</td>
<td>Fri., June 10</td>
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<td>Last Day to Receive 100% refund for books through the Bookstore</td>
<td>Tues., June 14</td>
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<tr>
<td>Last Day to Receive 50% refund for books through the Bookstore</td>
<td>Thurs., June 16</td>
</tr>
<tr>
<td>Last Day to drop a Full-Term Course with 50% Refund</td>
<td>Fri., June 17</td>
</tr>
<tr>
<td>Deadline to Petition to Graduate in Summer 2016 due</td>
<td>Fri., June 27</td>
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<tr>
<td>Holiday (Independence Day) College Closed, No Classes</td>
<td>Fri., July 4</td>
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<tr>
<td>Last Day to Withdraw from a Full-Term Course</td>
<td>Fri., July 15</td>
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<tr>
<td>Last Day of Term</td>
<td>Fri., July 29</td>
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<td>Final Grades Due</td>
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