

# 2016 - 2018 CNM Catalog, Volume 49

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[2014 - 2015 Catalog, Volume 47](#)

[2013 - 2014 Catalog, Volume 46](#)

[2012 - 2013 Catalog, Volume 45](#)

[2011 - 2012 Catalog, Volume 44](#)

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## Catalog Features

This Catalog edition covers academic programs for the 2016 - 2018 academic years. Information contained is accurate as of March 2016.

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A catalog-to-catalog academic crosswalk



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## CNM Admission & Diversity

Central New Mexico Community College has an open admission policy that provides individuals the opportunity to enroll in the college's certificate or degree programs as well as individual courses. Students are considered for admission to CNM without regard to gender, race, color, national origin, religion, age, disability, sexual orientation or marital status. It is the policy of the college not to discriminate on the basis of sexual orientation, marital status or ancestry.

We want your [feedback](#) on the CNM academic catalog. Let's make it better.

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# About This Catalog

The CNM Catalog is a student's official guide to programs, courses and policies at Central New Mexico Community College (CNM). The CNM Catalog is a summary of information of interest to students; it is not a complete statement of programs and policies. The college reserves the right to change any provisions or requirements of this catalog at any time. Catalog supplements reflecting changes will be published as required.

This edition covers academic programs for the 2016 - 2018 academic year. Information in it is accurate as of March 2016.

Students may choose to complete their program requirements as defined in the catalog in effect when they earned their first credit(s) at CNM or a later catalog as long as the catalog is not more than five years old. Time of attendance is defined as the period of time between the student's first earned credit hours at CNM through their last earned credit hours at CNM.

Information in the CNM Catalog is subject to change. Not all programs and classes listed in this Catalog are offered at all campuses or every term. If 50% or less of the class capacity enrolls in a course, the course may be cancelled.

To access earlier CNM catalogs visit Archived Catalogs.

**For dates, times and locations of specific courses and course sections, see the Schedule of Classes.**

## Catalog Features

**Search.** The catalog is fully searchable. Choose your search options at the top of the left-hand navigation.

**Easy Printing.** Print only the pages that matter to you. Click the printer icon on any page and get a printer-friendly version of the information you're viewing. (Enabling popups may be necessary.)

**Degree Planner.** When you choose an academic program or major - or to help you choose - print out your path to graduation, term by term.

**Portfolio.** My Portfolio - allows you to record and track your favorite programs and courses.

## What's New!

New programs and courses at CNM, along with a detailed chart of programs and courses renamed or discontinued.

# Proficiencies, Electives & Requirements

## Prerequisites, Corequisites and Program Proficiencies

**Prerequisite:** A prerequisite is a requirement that must be successfully completed before a student may enroll in a course. All prerequisite courses must be completed with a grade of “C” or better. [Read more.](#)

**Corequisite:** A corequisite is a course that is required to be taken in combination with another course. [Read more.](#)

CNM programs require students to be proficient in reading, writing and math or a combination of these basic skills before they can begin most college courses in their program. Proficiency requirements can be met through Accuplacer, SAT, ACT, or TOEFL scores, or by successfully completing appropriate level course work.

## General Education Elective Chart

Many CNM programs accept for credit elective courses offered in a given field. While the field is specifically relevant to the academic program, the range of electives allows the student to focus on an area of particular interest.

## AAS General Education Requirements Chart

These General Education courses are deemed applicable within their subject areas to complement Associate of Applied Science (AAS) degree programs and Certificate of Completion programs requiring more than 45 credits. Students enrolled in AAS degree programs and certain Certificate of Completion programs may be required to choose an elective from within a specific course area in order to complete that program.

## AA and AS General Education Requirements Chart

These courses included within the state approved general education core curriculum as designated as appropriate to the Associate of Arts (AA) and Associate of Science (AS) degrees.

# Prerequisites, Corequisites and Program Proficiencies

## Prerequisites and Corequisites

**Prerequisites and corequisites** are listed in course descriptions and are subject to change with each new catalog. It is the student's responsibility to meet the prerequisite and/or corequisites in effect for the term in which a course is taken, regardless of the catalog under which the student entered or will graduate. Students will be stopped from enrolling or will be disenrolled if prerequisites or corequisites are not met.

**Prerequisite:** A prerequisite is a requirement that must be successfully completed before a student may enroll in a course. Prerequisites are based on the essential skills or competencies to be successful in the next level course. All prerequisite courses must be completed with a “CR” or “C” or better grade.

Most entry-level courses have prerequisites for reading, writing, or math. See “How to Meet a Course Prerequisite” below.

**Corequisite:** A corequisite is a course that is required to be taken in combination with another course. If a course with a corequisite is taken for audit, the corequisite must also be taken for audit. When a course that has a corequisite is dropped, the corequisite must also be dropped.

## How to Meet a Course Prerequisite

**There are five ways to meet a course prerequisite:**

Take the free Accuplacer placement exam at CNM (see Assessment Centers). [Placement Exam Score Guide](#)

Submit official ACT, SAT, or TOEFL scores to any CNM Admissions Office.

Take a placement or challenge exam for Biology, IT 1010 (IC3 or CLEP), Spanish or French.

Enroll in the required prerequisite course and pass it with a grade of CR or C or higher.

Complete the required prerequisite course at another institution with a grade of C or higher (official transcript must be on file at CNM Records Office).

Speak with an Academic Coach for further assistance with prerequisite and course placement.

**Note:** a. Students with an associate degree may have the following prerequisites overridden: all developmental courses (numbered below 1000) and **ENG 1101**. b. Students with a bachelor's degree or higher may have the following prerequisites overridden: all developmental courses (numbered below 1000) **ENG 1101, IT 1010, MATH 1210, MATH 1310, BIO 1410, BIO 1492, CHEM 1410, CHEM 1492**.

*Students with an associate or bachelor's degree do not receive credit for any of the overridden prerequisites. Students must take these courses, or have them transferred from another institution, if they are required for the student's degree program.*

Students who enroll in classes without completing the prerequisite (regardless of the circumstance) must accept complete responsibility for the outcome and their final grade.

## Prerequisite Overrides

**Please be advised that prerequisite overrides do not waive certificate or degree requirements. If your program of study requires the overridden class(es), you still need to obtain credit for the overridden class(es). This can be accomplished by any one of the following:**

Taking and successfully completing the course.

Taking and passing a challenge exam for the course, if available.

Passing an industry certification exam, if available.

Transferring an equivalent course from another institution.

Demonstrating your knowledge, skills and abilities related to the learning outcomes of the overridden class(es) through Prior Learning Assessment.

## Program Proficiencies

Most CNM programs require students to be proficient in reading, writing and math or a combination of these basic skills before they can begin most college courses in their program. Program proficiency requirements are listed with each program description. At CNM there are 2 Proficiency Levels for Math and 2 for Reading/Writing.

Proficiency requirements can be met through Accuplacer, CNM's placement exam, SAT or ACT scores, PARCC level 4 or 5 (ELA/literacy at grade 11, Algebra II or Mathematics III), or by successfully completing appropriate level course work. (See the Proficiency Requirements table below.)

Students who present a High School Transcript may bypass developmental education courses 1000 or below in English and Reading provided the following conditions are met:

1. High School GPA must be a 2.5 or greater.
2. Student must have graduated with a Diploma.
3. An official Transcript must be presented to Enrollment Services.
4. Math placement will be based on a recognized assessment tool approved by CNM.

<b>Reading &amp; Writing Proficiency Requirements</b>		
<b>In order to meet this Proficiency:</b>	<b>Your placement scores must be within this range:</b>	<b>Or, you must have successfully completed the following course(s):</b>
<p><b>READING &amp; WRITING LEVEL 1 PROFICIENCY</b></p> <p>Students with LEVEL 1 proficiency in reading and writing are able to identify, understand, and evaluate various work-related and academic texts. Students can write academic and workplace documents and effectively use technology for reading and writing tasks.</p>	<ul style="list-style-type: none"> <li>• <b>Accuplacer</b> Reading and Sentence Skills combined score 125 -165</li> <li>• <b>ACT</b> Reading score 16 - 17 English score 14 - 15</li> <li>• <b>SAT</b> Verbal/Critical Reading score 290 - 320</li> </ul>	<p><b>IRW 0970 or ESOL 0971</b></p>

<p><b>READING &amp; WRITING LEVEL 2 PROFICIENCY</b></p> <p>Students with LEVEL 2 proficiency in reading and writing are able to perform at level one proficiency and have developed reading, reasoning, and writing processes for academic success that also include critical reading and thinking skills. Students can determine the credibility and proper use of sources and can write organized, logical, and grammatically correct paragraphs.</p>	<ul style="list-style-type: none"> <li>• <b>Accuplacer</b> Reading and Sentence Skills combined score 166 or higher and are able to perform at level one sentence skills 85 or above</li> <li>• <b>ACT</b> Reading score 18 - 36 English score 16 - 22</li> <li>• <b>SAT</b> Verbal/Critical Reading score 330 - 450</li> <li>• <b>TOEFL</b> Internet Based TOEFL score 61</li> </ul>	<p><b>IRW 0980</b> or ESOL 0981 or ESOL 1001 or ESOL 1010 or ESOL 1020 or ESOL 1030</p>
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**Math Proficiency Requirements**

<p><b>In order to meet this Proficiency:</b></p>	<p><b>Your placement scores must be within this range:</b></p>	<p><b>Or, you must have successfully completed the following course(s):</b></p>
<p><b>Math 2 Proficiency</b></p> <p>Students with this level of proficiency are able to integrate arithmetic operations into the manipulation of algebraic expressions. They are able to solve linear equations and inequalities using math properties and rules, graphically represent solutions, and interpret the characteristics of lines. Students are able to solve systems of linear equations by the graphing, substitution, and elimination/addition methods. Students are also able to apply algebraic concepts and formulas to geometry and work with scientific notation.</p>	<ul style="list-style-type: none"> <li>• <b>Accuplacer</b> Elementary Algebra score 41-65</li> <li>• <b>ACT</b> Math score 17-18</li> <li>• <b>SAT</b> Quantitative/math score 350-390</li> </ul>	<p><b>MATH 0970</b></p>

<p><b>Math 3 Proficiency</b></p> <p>Students with this level of proficiency are able to do all required for Proficiency 2. Additionally students are able to work with exponents, perform arithmetic on polynomials, factor quadratic expressions, and solve quadratic equations using a variety of methods. Students are also able to work with functions and function notation at an introductory level.</p>	<ul style="list-style-type: none"> <li>• <b>Accuplacer</b> Elementary Algebra score of 66-103</li> <li>• <b>ACT</b> Math score of 19-21</li> <li>• <b>SAT</b> Quantitative/math score of 400-430</li> </ul>	<p><b>MATH 0980 or MATH 1210</b></p>
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## Biology Proficiency Requirements

<p><b>In order to meet this Proficiency:</b></p>	<p><b>Your placement scores must be within this range:</b></p>	<p><b>Or, you must have successfully completed the following course(s):</b></p>
<p><b>Biology Proficiency</b></p> <p>Students with this level of proficiency are able to enroll in <b>BIO 2110, BIO 2192, BIO 2210, BIO 2292, and NUTR 2110.</b></p>	<p>Biology Placement Exam * score of 64 or higher</p>	<p>[(CHEM 1410 &amp; CHEM 1492) or (CHEM 1710 &amp; CHEM 1792)] AND [(BIO 1410 &amp; BIO 1492) or (BIO 1610 &amp; BIO 1692)]</p>

\*The Biology Placement Exam is intended for students with significant prior experience in chemistry and biology. Passing the exam with a score of 64 will waive the prerequisites for BIO 2110/BIO 2192, BIO 2210/BIO 2292 and NUTR 2110.

It will not waive the prerequisites for any other courses. It does not award credit for BIO 1410/BIO 1492, BIO 1510/BIO 1592 + BIO 1610/BIO 1692, CHEM 1410/CHEM 1492 or CHEM 1710/CHEM 1792 and does not meet degree requirements for those classes.

\*Transferring students should be aware that the CNM Biology Placement Exam will not be recognized by other institutions. A passing score on the Biology Placement Exam will not waive the Biology and Chemistry prerequisites at other institutions, and they will not award credit for BIO 1410/BIO 1492, BIO 1510/BIO 1592 + BIO 1610/BIO 1692, CHEM 1410/CHEM 1492 or CHEM 1710/CHEM 1792. Students will still need to take these courses if they are required by their degree program at another institution.

## General Education Elective Chart

<p><b>Biological/ Physical Science</b></p>	<p><b>ASTR - Astronomy</b> <b>BIO - Biology</b> <b>CHEM - Chemistry</b> <b>EPS - Earth and Planetary Science</b> <b>GEOG - Physical Geography</b> <b>NS - Natural Science</b> <b>PHYS - Physics</b></p>
<p><b>College Success</b></p>	<p><b>CSE 1101</b></p>
<p><b>Computer Science</b></p>	<p><b>CSCI - Computer Science</b></p>

<b>Engineering</b>	<b>ENGR - Engineering</b>
<b>English/ Communication</b>	<b>ENG - English</b> <b>COMM - Communication</b> <b>JOUR - Journalism</b>
<b>Fine Arts</b>	<b>ARCH - Architecture</b> <b>ARTS - Art Studio</b> <b>ARTH - Art History</b> <b>DANC - Dance</b> <b>ENG 2210</b> <b>MUS - Music</b> <b>THEA - Theatre</b>
<b>Humanities</b>	<b>ENG - English (Literature), (except ENG 2210)</b> <b>GNHN - General Honors</b> <b>HIST - History</b> <b>HUM - Humanities</b> <b>LTAM - Latin American Studies</b> <b>PHIL - Philosophy</b> <b>RLGN - Religion</b> <b>SPAN 2280</b>
<b>Modern Language</b>	<b>ARBC - Arabic</b> <b>ASL - American Sign Language</b> <b>FREN - French</b> <b>LANG - Language Topics (Check Schedule of Classes for availability)</b> <b>PORT - Portuguese</b> <b>SPAN - Spanish (except SPAN 2280)</b>
<b>Mathematics</b>	<b>MATH - Mathematics</b>
<b>Nutrition</b>	<b>NUTR - Nutrition</b>
<b>Service Learning</b>	<b>SERV 1190</b>



<b>Social/Behavioral Science</b>	<b>AAST - Asian American Studies</b> <b>AFST - African American Studies</b> <b>ANTH - Anthropology</b> <b>CHMS - Chicano Studies</b> <b>CRP - Community and Regional Planning</b> <b>CST - Cultural Studies</b> <b>ECON - Economics</b> <b>GEOG - Geography</b> (except Physical Geography) <b>NATV - Native American Studies</b> <b>PSCI - Political Science</b> <b>PSY - Psychology</b> <b>SOC - Sociology</b> <b>SUST - Sustainability</b> <b>WMST - Women's Studies</b>
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# General Education Core Curriculum Requirements for the Associate of Arts (AA) and the Associate of Science (AS) Degrees

CNM's approved list of transfer degree general education coursework

The following is a list of state approved general education core courses currently offered at CNM, applicable to the Associate of Arts (AA) and Associate of Science (AS) degrees.

The AA degree must contain 35 general education credit hours in order to meet the State of New Mexico's lower division general education common core requirement. The 35 credit hours must be distributed among five general areas of learning and courses must be chosen from CNM's approved list of transfer degree general education coursework.

The AS degree must contain 35 general education credit hours. The 35 credit hours must be distributed among five general areas of learning and courses must be chosen from CNM's approved list of transfer degree general education coursework.

**Individual programs may require that students take specific courses within the General Education requirements for the purpose of transfer or for meeting industry standards and accreditation guidelines.**

## Area I Communication Requirements

AA/AS Degrees - Six (6) credit hours of writing and three (3) credit hours of oral communication required

Area I NM Higher Education General Education Core Competencies

- **COMM 1130 - Public Speaking 3 credit hour(s)**
- **COMM 2221 - Interpersonal Communication Studies 3 credit hour(s)**
- **COMM 2225 - Small-Group Communication Studies 3 credit hour(s)**
- **COMM 2232 - Business and Professional Communication Studies 3 credit hour(s)**
- **COMM 2270 - Communication Studies for Teachers 3 credit hour(s)**
- **COMM 2280 - Gender Communication Studies 3 credit hour(s)**
- **ENG 1101 - College Writing 3 credit hour(s)**
- **ENG 1102 - Analytic and Argumentative Writing 3 credit hour(s)**
- **ENG 1119 - Technical Communications 3 credit hour(s)**
- **ENG 2219 - Technical Writing 3 credit hour(s)**
- **ENG 2220 - Expository Writing 3 credit hour(s)**
- **ENG 2221 - Creative Writing: Fiction 3 credit hour(s)**
- **ENG 2222 - Creative Writing: Poetry 3 credit hour(s)**
- **JOUR 1171 - Writing for the Media I 3 credit hour(s)**
- **JOUR 2271 - Writing for the Media II 3 credit hour(s)**

## Area II Mathematics Requirements

Three (3) credit hours required for the AA degreeSix (6) credit hours required for the AS degree

Area II NM Higher Education General Education Core Competencies

- **MATH 1315 - College Algebra 3 credit hour(s)**
- **MATH 1320 - A Survey of Mathematics 3 credit hour(s)**
- **MATH 1330 - Introduction to Probability and Statistics 3 credit hour(s)**
- **MATH 1340 - Geometry for Design 3 credit hour(s)**
- **MATH 1410 - Trigonometry 3 credit hour(s)**
- **MATH 1415 - Advanced Algebra 4 credit hour(s)**
- **MATH 1460 - Elements of Calculus I 3 credit hour(s)**
- **MATH 1465 - Elements of Calculus II 3 credit hour(s)**
- **MATH 1710 - Calculus I 4 credit hour(s)**
- **MATH 1715 - Calculus II 4 credit hour(s)**

## Area III Laboratory Sciences Requirements

AA/AS Degrees - Eight (8) credit hours required, to include at least one laboratory class  
Area III NM Higher Education General Education Core Competencies

- **ASTR 1110 - Introduction to Stellar and Galactic Astronomy 3 credit hour(s)**
- **ASTR 1192 - Introduction to Stellar and Galactic Astronomy Laboratory 1 credit hour(s)**
- **BIO 1010 - Biology for Non-Majors 3 credit hour(s)**
- **BIO 1092 - Biology for Non-Majors Lab 1 credit hour(s)**
- **BIO 1110 - Environmental Science 3 credit hour(s)**
- **BIO 1192 - Environmental Science Laboratory 1 credit hour(s)**
- **BIO 1310 - Human Anatomy and Physiology for Non-Majors 3 credit hour(s)**
- **BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory 1 credit hour(s)**
- **BIO 1410 - Biology for Health Sciences 3 credit hour(s)**
- **BIO 1492 - Biology for Health Sciences Laboratory 1 credit hour(s)**
- **BIO 1510 - Molecular and Cell Biology 3 credit hour(s)**
- **BIO 1592 - Molecular and Cell Biology Laboratory 1 credit hour(s)**
- **BIO 1610 - Genetics 3 credit hour(s)**
- **BIO 1692 - Genetics Laboratory 1 credit hour(s)**
- **BIO 2110 - Microbiology 3 credit hour(s)**
- **BIO 2192 - Microbiology Laboratory 1 credit hour(s)**
- **BIO 2410 - Ecology & Evolution 3 credit hour(s)**
- **BIO 2492 - Ecology & Evolution Laboratory 1 credit hour(s)**
- **BIO 2510 - Plant & Animal Form and Function 3 credit hour(s)**
- **BIO 2592 - Plant & Animal Form and Function Laboratory 1 credit hour(s)**
- **CHEM 1010 - Chemistry in Our Communities 3 credit hour(s)**
- **CHEM 1092 - Chemistry in Our Community Laboratory 1 credit hour(s)**
- **CHEM 1410 - Introduction to Chemistry 3 credit hour(s)**
- **CHEM 1492 - Introduction to Chemistry Laboratory 1 credit hour(s)**
- **CHEM 1710 - General Chemistry I 3 credit hour(s)**
- **CHEM 1792 - General Chemistry I Lab 1 credit hour(s)**
- **CHEM 1810 - General Chemistry II 3 credit hour(s)**
- **CHEM 1892 - General Chemistry II Lab 1 credit hour(s)**
- **CHEM 2710 - Organic Chemistry I 3 credit hour(s)**
- **CHEM 2792 - Organic Chemistry I Laboratory 1 credit hour(s)**
- **EPS 1101 - Introduction to Geology 3 credit hour(s)**
- **EPS 1192 - Introduction to Geology Laboratory 1 credit hour(s)**
- **GEOG 1101 - Physical Geography 3 credit hour(s)**
- **GEOG 1192 - Physical Geography Lab 1 credit hour(s)**
- **NS 1010 - Physical Science for Teachers 4 credit hour(s) \***
- **NS 1015 - Life Science for Teachers 4 credit hour(s) \***
- **NS 2010 - Environmental Science for Teachers 4 credit hour(s) \***
- **NUTR 1010 - Personal and Practical Nutrition 3 credit hour(s)**
- **NUTR 1092 - Personal and Practical Nutrition Lab 1 credit hour(s)**
- **PHYS 1010 - Introduction to Physics 3 credit hour(s)**
- **PHYS 1092 - Introduction to Physics Laboratory 1 credit hour(s)**
- **PHYS 1510 - Algebra-Based Physics I 4 credit hour(s)**
- **PHYS 1592 - Algebra-Based Physics I Laboratory 1 credit hour(s)**
- **PHYS 1610 - Algebra-Based Physics II 4 credit hour(s)**

- **PHYS 1692 - Algebra-Based Physics II Laboratory 1 credit hour(s)**
- **PHYS 1710 - Calculus-Based Physics I 4 credit hour(s)**
- **PHYS 1792 - Calculus-Based Physics I Laboratory 1 credit hour(s)**
- **PHYS 1810 - Calculus-Based Physics II 4 credit hour(s)**
- **PHYS 1892 - Calculus-Based Physics II Laboratory 1 credit hour(s)**

\* Meets lab class requirement

## **Area IV Social/Behavioral Science Requirements**

Six (6) to nine (9) credit hours required for AA degree Six (6) credit hours required for the AS degree

Area IV NM Higher Education General Education Core Competencies

- **AFST 1150 - Introduction to African American Studies 3 credit hour(s)**
- **ANTH 1101 - Intro Anthropology 3 credit hour(s)**
- **ANTH 1110 - Language Culture and the Human Animal 3 credit hour(s)**
- **ANTH 1120 - Archaeology: Discovering Our Past 3 credit hour(s)**
- **ANTH 1121/1192 - Archaeological Field Methods with Laboratory 4 credit hour(s)**
- **ANTH 1130 - Cultures of the World 3 credit hour(s)**
- **ANTH 2238 - Cultures Of the Southwest 3 credit hour(s)**
- **CHMS 1150 - Introduction to Chicano Studies 3 credit hour(s)**
- **CST 1150 - Introduction to Cultural Studies 3 credit hour(s)**
- **CST 2260 - Popular Culture and Cultural Identity 3 credit hour(s)**
- **ECON 1101 - Introduction to Economics 3 credit hour(s)**
- **ECON 2200 - Macroeconomics 3 credit hour(s)**
- **ECON 2201 - Microeconomics 3 credit hour(s)**
- **ECON 2203 - Society and the Environment 3 credit hour(s)**
- **GEOG 1102 - Human Geography 3 credit hour(s)**
- **NATV 1150 - Introduction to Native American Studies 3 credit hour(s)**
- **PSCI 1110 - The Political World 3 credit hour(s)**
- **PSCI 2200 - U.S. Politics 3 credit hour(s)**
- **PSCI 2210 - State and Local Politics 3 credit hour(s)**
- **PSCI 2220 - Comparative Government and Politics 3 credit hour(s)**
- **PSCI 2240 - International Politics 3 credit hour(s)**
- **PSCI 2260 - Political Ideas 3 credit hour(s)**
- **PSY 1105 - Introduction to Psychology 3 credit hour(s)**
- **PSY 2220 - Developmental Psychology 3 credit hour(s)**
- **PSY 2231 - Human Sexuality 3 credit hour(s)**
- **PSY 2233 - Psychology and Film 3 credit hour(s)**
- **SOC 1101 - Introduction to Sociology 3 credit hour(s)**
- **SOC 2205 - Crime Public Policy and the Criminal Justice System 3 credit hour(s)**
- **SOC 2211 - Social Problems 3 credit hour(s)**
- **SOC 2213 - Deviant Behavior 3 credit hour(s)**
- **SOC 2216 - Ethnic and Minority Groups 3 credit hour(s)**
- **SOC 2221 - Global Issues 3 credit hour(s)**
- **SOC 2225 - Sociology of Family 3 credit hour(s)**
- **SOC 2235 - Sociology of Gender 3 credit hour(s)**
- **WMST 1150 - Introduction to Women's Studies 3 credit hour(s)**

## **Area V Humanities/Fine Arts Requirements**

Six (6) to nine (9) credit hours required for the AA degreeSix (6) credit hours required for the AS degree

Area V NM Higher Education General Education Core Competencies

## Humanities

- **ENG 1150 - Study Of Literature 3 credit hour(s)**
- **ENG 2250 - Analysis of Literature 3 credit hour(s)**
- **ENG 2262 - Survey of Earlier World Literature 3 credit hour(s)**
- **ENG 2263 - Survey of Later World Literature 3 credit hour(s)**
- **ENG 2282 - Modern Latin American Literature 3 credit hour(s)**
- **ENG 2284 - Survey of Earlier English Literature 3 credit hour(s)**
- **ENG 2285 - Survey of Later English Literature 3 credit hour(s)**
- **ENG 2287 - Earlier American Literature 3 credit hour(s)**
- **ENG 2288 - Later American Literature 3 credit hour(s)**
- **GNHN 1121 - General Honors: The Ancient Legacy 3 credit hour(s)**
- **GNHN 1122 - General Honors: The Modern Legacy 3 credit hour(s)**
- **GNHN 2211 - Utopian and Dystopian Thought 3 credit hour(s)**
- **HIST 1101 - Western Civilization I 3 credit hour(s)**
- **HIST 1102 - Western Civilization II 3 credit hour(s)**
- **HIST 1161 - History of the United States I 3 credit hour(s)**
- **HIST 1162 - History of the United States II 3 credit hour(s)**
- **HIST 1181 - Early Latin American History 3 credit hour(s)**
- **HIST 1182 - Modern Latin American History 3 credit hour(s)**
- **HIST 2240 - Vietnam: War Politics and Culture 3 credit hour(s)**
- **HIST 2260 - History of New Mexico 3 credit hour(s)**
- **HIST 2270 - The American West 3 credit hour(s)**
- **HUM 1111 - Cultures and Civilizations of the Ancient World 3 credit hour(s)**
- **HUM 1121 - Cultures and Civilization Renaissance to Present 3 credit hour(s)**
- **PHIL 1102 - Ethics in Society 3 credit hour(s)**
- **PHIL 1110 - Introduction to Philosophical Thought 3 credit hour(s)**
- **PHIL 1156 - Logic and Critical Thinking 3 credit hour(s)**
- **PHIL 2246 - Environmental Ethics 3 credit hour(s)**
- **PHIL 2247 - Biomedical Ethics 3 credit hour(s)**
- **PHIL 2248 - Ethics of Technology 3 credit hour(s)**
- **RLGN 1107 - Living World Religions 3 credit hour(s)**
- **RLGN 2240 - Ancient Religions 3 credit hour(s)**
- **RLGN 2263 - Eastern Religions 3 credit hour(s)**
- **SPAN 2280 - Introduction to Hispanic Literature 3 credit hour(s)**

## Fine Arts

- **ARTH 1101 - Introduction to Art 3 credit hour(s)**
- **ARTH 2201 - History of Art I 3 credit hour(s)**
- **ARTH 2202 - History of Art II 3 credit hour(s)**
- **ARTH 2250 - Modern Art 3 credit hour(s)**
- **ARTH 2251 - Art of the American Southwest 3 credit hour(s)**
- **ARTH 2260 - Architectural History: Ancient through Modern 3 credit hour(s)**
- **ENG 2210 - Film as Literature 3 credit hour(s)**
- **MUS 1103 - Fundamentals of Music 4 credit hour(s)**

- **MUS 1139 - Early Music Appreciation 3 credit hour(s)**
- **MUS 1140 - Modern Music Appreciation 3 credit hour(s)**
- **MUS 1172 - Introduction to Jazz 3 credit hour(s)**
- **THEA 1122 - Theatre Appreciation 3 credit hour(s)**

## **Computer Literacy Requirement**

CNM General Education Student Learning Outcomes

- **IT 1010 - Computer Concepts and Software Applications 3 credit hour(s) \*\***

\*\* Computer Literacy is not a required New Mexico state general education area of learning. It is required to fulfill CNM's general education core, however.

# General Education Course Requirements for Associate in Applied Science (AAS)

## Associate in Applied Science

The AAS degree requires 15 general education credit hours chosen from CNM's approved list of general education coursework. See specific program descriptions for the general education courses required to fulfill particular degree requirements.

Individual programs may require that students take specific courses within the General Education requirements for the purpose of transfer or for meeting industry standards and accreditation guidelines.

## AAS Requirements

### General Education (15 credits)

#### Computer Literacy Requirement

Three (3) credit hours required for the AAS degree

CNM General Education Student Learning Outcomes for Applied Science Degrees Computer Literacy

- **IT 1010 - Computer Concepts and Software Applications 3 credit hour(s)**

#### Human Relations Requirement

Three (3) credit hours required for the AAS degree.

CNM General Education Student Learning Outcomes for Applied Science Degrees Human Relations

- **AAST 1150 - Introduction to Asian American Studies 3 credit hour(s)**
- **AFST 1150 - Introduction to African American Studies 3 credit hour(s)**
- **ANTH 1101 - Intro Anthropology 3 credit hour(s)**
- **ANTH 1110 - Language Culture and the Human Animal 3 credit hour(s)**
- **ANTH 1120 - Archaeology: Discovering Our Past 3 credit hour(s)**
- **ANTH 1130 - Cultures of the World 3 credit hour(s)**
- **ANTH 2238 - Cultures Of the Southwest 3 credit hour(s)**
- **CHMS 1150 - Introduction to Chicano Studies 3 credit hour(s)**
- **COMM 2221 - Interpersonal Communication Studies 3 credit hour(s)**
- **COMM 2223 - Introduction to Nonverbal Communication Studies 3 credit hour(s)**
- **COMM 2225 - Small-Group Communication Studies 3 credit hour(s)**
- **COMM 2280 - Gender Communication Studies 3 credit hour(s)**
- **COMM 2281 - Intercultural Communication Studies 3 credit hour(s)**
- **COMM 2282 - Family Communication Studies 3 credit hour(s)**
- **CST 1150 - Introduction to Cultural Studies 3 credit hour(s)**
- **CST 2260 - Popular Culture and Cultural Identity 3 credit hour(s)**
- **EDUC 2203 - Introduction to Classroom Management Grades K-5 3 credit hour(s)**
- **EDUC 2205 - Introduction to Classroom Management Grades 6-12 3 credit hour(s)**
- **ENG 2262 - Survey of Earlier World Literature 3 credit hour(s)**
- **ENG 2263 - Survey of Later World Literature 3 credit hour(s)**
- **ENG 2282 - Modern Latin American Literature 3 credit hour(s)**
- **NATV 1150 - Introduction to Native American Studies 3 credit hour(s)**
- **PHIL 1102 - Ethics in Society 3 credit hour(s)**
- **PHIL 2245 - Business Ethics 3 credit hour(s)**
- **PHIL 2246 - Environmental Ethics 3 credit hour(s)**

- **PHIL 2247 - Biomedical Ethics 3 credit hour(s)**
- **PSCI 1110 - The Political World 3 credit hour(s)**
- **PSCI 2260 - Political Ideas 3 credit hour(s)**
- **PSY 1105 - Introduction to Psychology 3 credit hour(s)**
- **PSY 2231 - Human Sexuality 3 credit hour(s)**
- **PSY 2233 - Psychology and Film 3 credit hour(s)**
- **SOC 1101 - Introduction to Sociology 3 credit hour(s)**
- **SOC 2216 - Ethnic and Minority Groups 3 credit hour(s)**
- **SOC 2225 - Sociology of Family 3 credit hour(s)**
- **SOC 2230 - Society and Personality 3 credit hour(s)**
- **SOC 2235 - Sociology of Gender 3 credit hour(s)**
- **SOC 2280 - Social Science Research 3 credit hour(s)**
- **WMST 1150 - Introduction to Women's Studies 3 credit hour(s)**

## AAS Mathematics Requirement

Three (3) credit hours required for the AAS degree.

CNM General Education Student Learning Outcomes for Applied Science Degrees Math

- **MATH 1210 - Methods of Problem Solving 4 credit hour(s)**
- **MATH 1310 - Intermediate Algebra 4 credit hour(s)**
- **MATH 1315 - College Algebra 3 credit hour(s)**
- **MATH 1320 - A Survey of Mathematics 3 credit hour(s)**
- **MATH 1330 - Introduction to Probability and Statistics 3 credit hour(s)**
- **MATH 1340 - Geometry for Design 3 credit hour(s)**
- **MATH 1410 - Trigonometry 3 credit hour(s)**
- **MATH 1415 - Advanced Algebra 4 credit hour(s)**
- **MATH 1460 - Elements of Calculus I 3 credit hour(s)**
- **MATH 1465 - Elements of Calculus II 3 credit hour(s)**
- **MATH 1710 - Calculus I 4 credit hour(s)**
- **MATH 1715 - Calculus II 4 credit hour(s)**
- **MATH 2710 - Calculus III 4 credit hour(s)**
- **MATH 2810 - Applied Linear Algebra 3 credit hour(s)**
- **MATH 2910 - Applied Ordinary Differential Equations 3 credit hour(s)**

## AAS Written Communication Requirement

Three (3) credit hours required for the AAS degree.

CNM General Education Student Learning Outcomes for Applied Science Degrees Written Communication

- **ENG 1101 - College Writing 3 credit hour(s)**
- **ENG 1102 - Analytic and Argumentative Writing 3 credit hour(s)**
- **ENG 1119 - Technical Communications 3 credit hour(s)**
- **ENG 2219 - Technical Writing 3 credit hour(s)**
- **ENG 2220 - Expository Writing 3 credit hour(s)**
- **ENG 2221 - Creative Writing: Fiction 3 credit hour(s)**
- **ENG 2222 - Creative Writing: Poetry 3 credit hour(s)**

## AAS Choice Requirement (3 credits)

The Associate of Applied Science degree requires the successful completion of three (3) credit hours selected from among the following five areas.



Individual programs may require that students take specific courses within the General Education requirements for the purpose of transfer or for meeting industry standards and accreditation guidelines.

## Communication

- **COMM 1130 - Public Speaking 3 credit hour(s)**
- **COMM 2221 - Interpersonal Communication Studies 3 credit hour(s)**
- **COMM 2225 - Small-Group Communication Studies 3 credit hour(s)**
- **COMM 2232 - Business and Professional Communication Studies 3 credit hour(s)**
- **COMM 2270 - Communication Studies for Teachers 3 credit hour(s)**
- **COMM 2280 - Gender Communication Studies 3 credit hour(s)**
- **ENG 1101 - College Writing 3 credit hour(s)**
- **ENG 1102 - Analytic and Argumentative Writing 3 credit hour(s)**
- **ENG 1119 - Technical Communications 3 credit hour(s)**
- **ENG 2219 - Technical Writing 3 credit hour(s)**
- **ENG 2220 - Expository Writing 3 credit hour(s)**
- **ENG 2221 - Creative Writing: Fiction 3 credit hour(s)**
- **ENG 2222 - Creative Writing: Poetry 3 credit hour(s)**
- **JOUR 1171 - Writing for the Media I 3 credit hour(s)**
- **JOUR 2271 - Writing for the Media II 3 credit hour(s)**

## Mathematics

- **MATH 1315 - College Algebra 3 credit hour(s)**
- **MATH 1320 - A Survey of Mathematics 3 credit hour(s)**
- **MATH 1330 - Introduction to Probability and Statistics 3 credit hour(s)**
- **MATH 1340 - Geometry for Design 3 credit hour(s)**
- **MATH 1410 - Trigonometry 3 credit hour(s)**
- **MATH 1415 - Advanced Algebra 4 credit hour(s)**
- **MATH 1460 - Elements of Calculus I 3 credit hour(s)**
- **MATH 1465 - Elements of Calculus II 3 credit hour(s)**
- **MATH 1710 - Calculus I 4 credit hour(s)**
- **MATH 1715 - Calculus II 4 credit hour(s)**

## Laboratory Sciences

- **ASTR 1110 - Introduction to Stellar and Galactic Astronomy 3 credit hour(s)**
- **ASTR 1192 - Introduction to Stellar and Galactic Astronomy Laboratory 1 credit hour(s)**
- **BIO 1010 - Biology for Non-Majors 3 credit hour(s)**
- **BIO 1092 - Biology for Non-Majors Lab 1 credit hour(s)**
- **BIO 1110 - Environmental Science 3 credit hour(s)**
- **BIO 1192 - Environmental Science Laboratory 1 credit hour(s)**
- **BIO 1310 - Human Anatomy and Physiology for Non-Majors 3 credit hour(s)**
- **BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory 1 credit hour(s)**
- **BIO 1410 - Biology for Health Sciences 3 credit hour(s)**
- **BIO 1492 - Biology for Health Sciences Laboratory 1 credit hour(s)**
- **BIO 1510 - Molecular and Cell Biology 3 credit hour(s)**
- **BIO 1592 - Molecular and Cell Biology Laboratory 1 credit hour(s)**
- **BIO 1610 - Genetics 3 credit hour(s)**
- **BIO 1692 - Genetics Laboratory 1 credit hour(s)**
- **BIO 2110 - Microbiology 3 credit hour(s)**

- BIO 2192 - Microbiology Laboratory 1 credit hour(s)
- BIO 2210 - Human Anatomy and Physiology I 3 credit hour(s)
- BIO 2292 - Human Anatomy and Physiology I Lab 1 credit hour(s)
- BIO 2310 - Human Anatomy and Physiology II 3 credit hour(s)
- BIO 2392 - Human Anatomy and Physiology II Lab 1 credit hour(s)
- BIO 2410 - Ecology & Evolution 3 credit hour(s)
- BIO 2492 - Ecology & Evolution Laboratory 1 credit hour(s)
- BIO 2510 - Plant & Animal Form and Function 3 credit hour(s)
- BIO 2592 - Plant & Animal Form and Function Laboratory 1 credit hour(s)
- CHEM 1010 - Chemistry in Our Communities 3 credit hour(s)
- CHEM 1092 - Chemistry in Our Community Laboratory 1 credit hour(s)
- CHEM 1410 - Introduction to Chemistry 3 credit hour(s)
- CHEM 1492 - Introduction to Chemistry Laboratory 1 credit hour(s)
- CHEM 1710 - General Chemistry I 3 credit hour(s)
- CHEM 1792 - General Chemistry I Lab 1 credit hour(s)
- CHEM 1810 - General Chemistry II 3 credit hour(s)
- CHEM 1892 - General Chemistry II Lab 1 credit hour(s)
- CHEM 2710 - Organic Chemistry I 3 credit hour(s)
- CHEM 2792 - Organic Chemistry I Laboratory 1 credit hour(s)
- EPS 1101 - Introduction to Geology 3 credit hour(s)
- EPS 1192 - Introduction to Geology Laboratory 1 credit hour(s)
- GEOG 1101 - Physical Geography 3 credit hour(s)
- GEOG 1192 - Physical Geography Lab 1 credit hour(s)
- NS 1010 - Physical Science for Teachers 4 credit hour(s)
- NS 1015 - Life Science for Teachers 4 credit hour(s)
- NS 2010 - Environmental Science for Teachers 4 credit hour(s)
- NUTR 1010 - Personal and Practical Nutrition 3 credit hour(s)
- NUTR 1092 - Personal and Practical Nutrition Lab 1 credit hour(s)
- PHYS 1010 - Introduction to Physics 3 credit hour(s)
- PHYS 1092 - Introduction to Physics Laboratory 1 credit hour(s)
- PHYS 1510 - Algebra-Based Physics I 4 credit hour(s)
- PHYS 1592 - Algebra-Based Physics I Laboratory 1 credit hour(s)
- PHYS 1610 - Algebra-Based Physics II 4 credit hour(s)
- PHYS 1692 - Algebra-Based Physics II Laboratory 1 credit hour(s)
- PHYS 1710 - Calculus-Based Physics I 4 credit hour(s)
- PHYS 1792 - Calculus-Based Physics I Laboratory 1 credit hour(s)
- PHYS 1810 - Calculus-Based Physics II 4 credit hour(s)
- PHYS 1892 - Calculus-Based Physics II Laboratory 1 credit hour(s)

## Social/Behavioral Science

- AAST 1150 - Introduction to Asian American Studies 3 credit hour(s)
- AFST 1150 - Introduction to African American Studies 3 credit hour(s)
- ANTH 1101 - Intro Anthropology 3 credit hour(s)
- ANTH 1110 - Language Culture and the Human Animal 3 credit hour(s)
- ANTH 1120 - Archaeology: Discovering Our Past 3 credit hour(s)
- ANTH 1121/1192 - Archaeological Field Methods with Laboratory 4 credit hour(s)
- ANTH 1130 - Cultures of the World 3 credit hour(s)

- ANTH 2238 - Cultures Of the Southwest 3 credit hour(s)
- CHMS 1150 - Introduction to Chicano Studies 3 credit hour(s)
- CST 1150 - Introduction to Cultural Studies 3 credit hour(s)
- CST 2260 - Popular Culture and Cultural Identity 3 credit hour(s)
- ECON 1101 - Introduction to Economics 3 credit hour(s)
- ECON 2200 - Macroeconomics 3 credit hour(s)
- ECON 2201 - Microeconomics 3 credit hour(s)
- ECON 2203 - Society and the Environment 3 credit hour(s)
- GEOG 1102 - Human Geography 3 credit hour(s)
- NATV 1150 - Introduction to Native American Studies 3 credit hour(s)
- PSCI 1110 - The Political World 3 credit hour(s)
- PSCI 2200 - U.S. Politics 3 credit hour(s)
- PSCI 2210 - State and Local Politics 3 credit hour(s)
- PSCI 2220 - Comparative Government and Politics 3 credit hour(s)
- PSCI 2240 - International Politics 3 credit hour(s)
- PSCI 2260 - Political Ideas 3 credit hour(s)
- PSY 1105 - Introduction to Psychology 3 credit hour(s)
- PSY 2220 - Developmental Psychology 3 credit hour(s)
- PSY 2231 - Human Sexuality 3 credit hour(s)
- PSY 2233 - Psychology and Film 3 credit hour(s)
- SOC 1101 - Introduction to Sociology 3 credit hour(s)
- SOC 2205 - Crime Public Policy and the Criminal Justice System 3 credit hour(s)
- SOC 2211 - Social Problems 3 credit hour(s)
- SOC 2213 - Deviant Behavior 3 credit hour(s)
- SOC 2216 - Ethnic and Minority Groups 3 credit hour(s)
- SOC 2225 - Sociology of Family 3 credit hour(s)
- SOC 2235 - Sociology of Gender 3 credit hour(s)
- WMST 1150 - Introduction to Women's Studies 3 credit hour(s)

## Humanities & Fine Arts

### Humanities

- ENG 1150 - Study Of Literature 3 credit hour(s)
- ENG 2250 - Analysis of Literature 3 credit hour(s)
- ENG 2251 - Introduction to Dramatic Literature 3 credit hour(s)
- ENG 2262 - Survey of Earlier World Literature 3 credit hour(s)
- ENG 2263 - Survey of Later World Literature 3 credit hour(s)
- ENG 2282 - Modern Latin American Literature 3 credit hour(s)
- ENG 2284 - Survey of Earlier English Literature 3 credit hour(s)
- ENG 2285 - Survey of Later English Literature 3 credit hour(s)
- ENG 2287 - Earlier American Literature 3 credit hour(s)
- ENG 2288 - Later American Literature 3 credit hour(s)
- FILM 2010 - Survey of Films and Film Industry 3 credit hour(s)
- GNHN 1121 - General Honors: The Ancient Legacy 3 credit hour(s)
- GNHN 1122 - General Honors: The Modern Legacy 3 credit hour(s)
- GNHN 2211 - Utopian and Dystopian Thought 3 credit hour(s)
- GNHN 2221 - Understanding Evil 3 credit hour(s)

- HIST 1101 - Western Civilization I 3 credit hour(s)
- HIST 1102 - Western Civilization II 3 credit hour(s)
- HIST 1161 - History of the United States I 3 credit hour(s)
- HIST 1162 - History of the United States II 3 credit hour(s)
- HIST 1181 - Early Latin American History 3 credit hour(s)
- HIST 1182 - Modern Latin American History 3 credit hour(s)
- HIST 2240 - Vietnam: War Politics and Culture 3 credit hour(s)
- HIST 2260 - History of New Mexico 3 credit hour(s)
- HIST 2270 - The American West 3 credit hour(s)
- HUM 1111 - Cultures and Civilizations of the Ancient World 3 credit hour(s)
- HUM 1115 - The Medieval World 3 credit hour(s)
- HUM 1121 - Cultures and Civilization Renaissance to Present 3 credit hour(s)
- LTAM 1110 - Introduction to Latin American Studies 3 credit hour(s)
- LTAM 1111 - Latin American Film 3 credit hour(s)
- PHIL 1102 - Ethics in Society 3 credit hour(s)
- PHIL 1110 - Introduction to Philosophical Thought 3 credit hour(s)
- PHIL 1156 - Logic and Critical Thinking 3 credit hour(s)
- PHIL 2246 - Environmental Ethics 3 credit hour(s)
- PHIL 2247 - Biomedical Ethics 3 credit hour(s)
- PHIL 2248 - Ethics of Technology 3 credit hour(s)
- RLGN 1107 - Living World Religions 3 credit hour(s)
- RLGN 2240 - Ancient Religions 3 credit hour(s)
- RLGN 2263 - Eastern Religions 3 credit hour(s)
- SPAN 2280 - Introduction to Hispanic Literature 3 credit hour(s)

## Fine Arts

- ARCH 1121 - Introduction to Architecture 3 credit hour(s)
- ARTH 1101 - Introduction to Art 3 credit hour(s)
- ARTH 2201 - History of Art I 3 credit hour(s)
- ARTH 2202 - History of Art II 3 credit hour(s)
- ARTH 2250 - Modern Art 3 credit hour(s)
- ARTH 2251 - Art of the American Southwest 3 credit hour(s)
- ARTH 2260 - Architectural History: Ancient through Modern 3 credit hour(s)
- DANC 1127 - African Dance 3 credit hour(s)
- DANC 1169 - Flamenco Dance I 3 credit hour(s)
- ENG 2210 - Film as Literature 3 credit hour(s)
- MUS 1103 - Fundamentals of Music 4 credit hour(s)
- MUS 1139 - Early Music Appreciation 3 credit hour(s)
- MUS 1140 - Modern Music Appreciation 3 credit hour(s)
- MUS 1172 - Introduction to Jazz 3 credit hour(s)
- THEA 1122 - Theatre Appreciation 3 credit hour(s)

# Programs of Study

## Accounting

### Accounting, Associate of Applied Science

#### School of Business & Information Technology (BIT)

The Accounting program provides graduates with a strong foundation in the theory and procedures of accounting for business transactions. Computer technology and software applications that facilitate production of accounting information are an integral part of the program. Education in accounting often provides a competitive advantage to those seeking advancement in all aspects of business.

Accounting coursework covers financial, managerial and tax accounting practices and procedures. Students develop financial statements for a variety of users and study the fundamentals of business and law. Students also study the verbal, written and teamwork skills needed for a business career.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- ACCT 1109 - Business Math **3 credit hour(s)**
- **or**
- **Approved Math course 3-4 credit hour(s)**
  
- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

##### Term 2

- ACCT 1120 - Payroll Accounting **3 credit hour(s)**
- ACCT 1140 - Accounting Applications **3 credit hour(s)**
- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Approved Math Course 3-4 credit hour(s)**  
**(If not previously taken)**
- **AAS Human Relations Requirement 3 credit hour(s)**

##### Term 3

- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**
- **or**
- ACCT 2095 - Cooperative Education **3 credit hour(s)**
- **or**
- ACCT 2098 - Internship **3 credit hour(s)**
  
- ACCT 2101 - Intermediate Accounting IA **3 credit hour(s)**

- ACCT 2340 - Tax Accounting **3 credit hour(s)**  
or
- ACCT 1301 - Volunteer Tax Preparation **2 credit hour(s)**  
and
- ACCT 1398 - Volunteer Tax Internship **1 credit hour(s)**
- ACCT 2420 - Computerized Accounting **3 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**

#### Term 4

- ACCT 2102 - Intermediate Accounting IB **3 credit hour(s)**
- ACCT 2230 - Cost Management Accounting **3 credit hour(s)**
- ACCT 2999 - Capstone Course **1 credit hour(s)**
- **AAS Choice Requirement 3 credit hour(s)**
- BA 2240 - Business Law **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

### Accounting, Associate of Applied Science 61-65 credit hours

#### Approved Math Courses

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

#### Program Approved Electives

- **Any ACCT course not used elsewhere**
- **Any FIN course**
- ACCT 1096-1996 - Special Topics **1-6 credit hour(s)**  
or
- ACCT 2096-2996 - Special Topics **1-6 credit hour(s)**
- BA 1115 - Web Business **3 credit hour(s)**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 1183 - Access Complete **3 credit hour(s)**

### Accounting, Certificate of Completion

#### School of Business & Information Technology (BIT)

CNM offers this 3-term Accounting Certificate of Completion to provide students with the necessary skills for accounting positions in industry.

The Accounting program provides graduates with a strong foundation in the theory and procedures of accounting for business transactions. Computer technology and software applications that facilitate production of accounting information are an integral part of the program. Education in accounting often provides a competitive advantage to those seeking advancement in all aspects of business.

See Recommended Sequence of Courses

Accounting coursework covers financial, managerial and tax accounting practices and procedures. Students develop financial statements for a variety of users and study the fundamentals of business and law. Students also study the verbal, written and teamwork skills needed for a business career.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

Math Proficiency 2

Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ACCT 1109 - Business Math **3 credit hour(s)**  
or
- **Approved Math Course 3-4 credit hour(s)**
  
- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- ACCT 1120 - Payroll Accounting **3 credit hour(s)**
- ACCT 1140 - Accounting Applications **3 credit hour(s)**
- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **AAS Mathematics Requirement 3-4 credit hour(s) (if not previously taken)**

### Term 3

- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**  
or
- ACCT 2095 - Cooperative Education **3 credit hour(s)**  
or
- ACCT 2098 - Internship **3 credit hour(s)**
  
- ACCT 2101 - Intermediate Accounting IA **3 credit hour(s)**
  
- ACCT 2340 - Tax Accounting **3 credit hour(s)**  
or
- ACCT 1301 - Volunteer Tax Preparation **2 credit hour(s)**  
and
- ACCT 1398 - Volunteer Tax Internship **1 credit hour(s)**

- ACCT 2420 - Computerized Accounting **3 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**

### Approved Math Courses

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

## Certificate in Accounting 42-46 credit hours

### Bookkeeping, Certificate of Completion

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ACCT 1109 - Business Math **3 credit hour(s)**  
or
- **Approved Math Course 3-4 credit hour(s)**
- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- ACCT 1120 - Payroll Accounting **3 credit hour(s)**
- ACCT 1140 - Accounting Applications **3 credit hour(s)**
- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- BA 1121 - Business English **3 credit hour(s)\***  
or
- ENG 1101 - College Writing **3 credit hour(s)\***

#### Term 3

- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**  
or
- ACCT 2095 - Cooperative Education **3 credit hour(s)**



or

- ACCT 2098 - Internship **3 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**

### Approved Math Courses

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

### Certificate in Bookkeeping 33-34 credit hours

\* Accounting certificate and degree students must choose ENG 1101 - College Writing

## Certified Public Accountant (CPA) Academic Requirements, Post Degree Certificate of Completion

### School of Business & Information Technology (BIT)

The Certified Public Accountant (CPA) Academic Requirements, Certificate of Completion provides 27 credit hours in accounting plus 3 credit hours in Business Law which are needed as a portion of the qualifications to take the CPA exam. This program is design to provide you with the academic requirements needed to comply with a portion of the qualifications required to take the CPA exam. Satisfactory completion of the coursework does not guarantee passing that exam.

Other requirements, which are set by the State Board of Accountancy, include a bachelor's degree or higher from an accredited college or university with at least 150 semester hours, which includes the 30 hours of accounting/law. Additional information about licensing requirements for the CPA can be obtained from the New Mexico State Board of Accountancy at (505) 841-9108. All of the courses included may also be applied toward an associate of applied science degree in Accounting or an Accounting or Bookkeeping certificate of completion.

### Program Proficiencies and/or Prerequisites

- Bachelor's Degree
- Department Approval

### Recommended Sequence of Courses

#### Term 1

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 2240 - Business Law **3 credit hour(s)**

#### Term 2

- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- ACCT 2101 - Intermediate Accounting IA **3 credit hour(s)**
- ACCT 2341 - Tax Accounting II **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

#### Term 3

- ACCT 2102 - Intermediate Accounting IB **3 credit hour(s)**

- ACCT 2103 - Intermediate Accounting II **3 credit hour(s)**
- ACCT 2520 - Auditing **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## **Certificate of Completion in Certified Public Accountant Academic Requirements 30 credit hours**

### **Program Approved Electives**

- ACCT 1096-1996 - Special Topics **1-6 credit hour(s)**  
**and/or**
- ACCT 2096-2996 - Special Topics **1-6 credit hour(s)**
- ACCT 2230 - Cost Management Accounting **3 credit hour(s)**
- ACCT 2340 - Tax Accounting **3 credit hour(s)**
- ACCT 2510 - Governmental Accounting **3 credit hour(s)**

## **Payroll Clerk, Certificate of Completion**

### **School of Business & Information Technology (BIT)**

The Payroll Clerk Certificate of Completion is a series of courses that provide entry-level skills in payroll accounting.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- ACCT 1109 - Business Math **3 credit hour(s)**  
**or**
- **Approved Math Course 3-4 credit hour(s)**
- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### **Term 2**

- ACCT 1120 - Payroll Accounting **3 credit hour(s)**
- ACCT 1140 - Accounting Applications **3 credit hour(s)**
- BA 1121 - Business English **3 credit hour(s)\***  
**or**
- ENG 1101 - College Writing **3 credit hour(s)\***

### **Approved Math Courses**

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**

- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

## **Certificate of Completion in Payroll Clerk 21-22 credit hours**

\* Accounting certificate and degree students must choose ENG 1101 - College Writing

## **Adult Basic Education (ABE)**

### **English as a Second Language (ESL)**

#### **School of Adult & General Education (SAGE)**

The Adult Basic Education (ABE) English as a Second Language (ESL) program offers non-credit courses in ESL. The goal of these courses is to help adult students improve their listening, speaking, reading, and writing skills in English. A range of leveled courses is available from Beginning level to Advanced. Other courses that the program offers are Integrated (multi-level) courses and Citizenship. Tutoring, study groups and computer-aided instruction are also available. ESL classes are non-credit courses; students completing this program can transition to credit courses through the ESOL (credit ESL) program.

See ESL Course Options

### **English as a Second Language (ESL) Course Options**

*Course placement and order based on CASAS test results.*

#### **Core Courses**

- ESL 0350 - Beginning ESL **0 credit hour(s)**
- ESL 0450 - Low Intermediate ESL **0 credit hour(s)**
- ESL 0550 - High Intermediate ESL **0 credit hour(s)**
- ESL 0650 - Low Advanced ESL **0 credit hour(s)**
- IBEC 0500 - I-BEST/ESL Early Childhood Multicultural Education **0 credit hour(s)**
- IBNA 0500 - I-BEST/ESL Nursing Assistant **0 credit hour(s)**

#### **Next Level Courses**

- **HSE/GED classes (offered in English and Spanish)**
- **Advanced ESOL Courses for credit**
- **Developmental Education (DE) Courses for credit**
- **CNM Degree or Certificate program**

## **High School Equivalency Exam (HiSET/GED) Preparation**

#### **School of Adult & General Education (SAGE)**

The Adult Basic Education (ABE) high-school equivalency (HSE) preparation program offers non-credit courses in Language Arts, Math, Science and Social Studies to students who are preparing for high-school equivalency exams, including the HiSET and GED. The program also offers instruction in reading and writing to students who are at a basic literacy level. Traditional classes, study groups, preparation for HSE in Spanish, and distance learning options are available. Classes are offered on intensive and non-intensive schedules.

### **Core Courses**

## Leveled Courses

- GECK 0500 - Computer Keyboarding **0 credit hour(s)**
- GELA 0550 - Language Arts I **0 credit hour(s)**
- GELA 0750 - Language Arts II **0 credit hour(s)**
- GELA 0950 - Language Arts III **0 credit hour(s)**
- GEMA 0450 - Math Fundamentals **0 credit hour(s)**
- GEMA 0550 - Decimals, Fractions and Measurements **0 credit hour(s)**
- GEMA 0750 - Proportions, Percentages and Data Analysis **0 credit hour(s)**
- GESG 0650 - General Education Science **0 credit hour(s)**
- GESP 0500 - Spanish HSE Prep **0 credit hour(s)**
- GESS 0650 - General Education Social Studies **0 credit hour(s)**

## Integrated Courses

- GELA 0500 - Multi-level Language Arts **0 credit hour(s)**
- GEMA 0500 - Multi-level Math **0 credit hour(s)**
- GEMS 0500 - General Education Multi-Subject **0 credit hour(s)**

## Alternative Teacher Licensure

### Alternative Teacher Licensure (Post Degree Certificate of Completion), Elementary Education Concentration

#### School of Communication, Humanities & Social Sciences (CHSS)

CNM offers a state-accredited program based on The National Council for Accreditation of Teacher Education (NCATE) standards for Alternative Teacher Licensure with certificates in, Elementary Education, Secondary Education, and Special Education. For students currently in the Alternative Teacher Licensure Program or licensed teachers, CNM offers coursework that can be applied to endorsements in Gifted Education, Teaching English to Speakers of Other Languages (TESOL) and Bilingual Education.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Alternative Teacher Licensure Program (ATLP) Application
- **Bachelor's Degree**

### Recommended Sequence of Courses

#### Program Requirements

- EDUC 2250 - Foundations of Education **3 credit hour(s)**
- EDUC 2285 - Curriculum Development Assessment and Evaluation I **3 credit hour(s)**
- EDUC 2260 - Emergent Literacy **3 credit hour(s)**
- EDUC 2262 - Intermediate Literacy: Grades 4-8 **3 credit hour(s)**
- EDUC 2284 - Effective Teaching Methods and Strategies **3 credit hour(s)**
- EDUC 2286 - Curriculum Development Assessment and Evaluation II **3 credit hour(s)**
- EDUC 2190 - Supervised Field Experience **3 credit hour(s)**

### Post Degree Certificate of Completion in Alternative Teacher Licensure Elementary Education Concentration **21 credit hours**

### Alternative Teacher Licensure (Post Degree Certificate of Completion), Secondary Education Concentration

## **School of Communication, Humanities & Social Sciences (CHSS)**

CNM offers a state-accredited program based on The National Council for Accreditation of Teacher Education (NCATE) standards for Alternative Teacher Licensure with certificates in, Elementary Education, Secondary Education, and Special Education. For students currently in the Alternative Teacher Licensure Program or licensed teachers, CNM offers coursework that can be applied to endorsements in Gifted Education, Teaching English to Speakers of Other Languages (TESOL) and Bilingual Education.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Alternative Teacher Licensure Program (ATLP) Application
- **Bachelor's Degree**

### **Recommended Sequence of Courses**

Program Requirements

- EDUC 2250 - Foundations of Education **3 credit hour(s)**
- EDUC 2285 - Curriculum Development Assessment and Evaluation I **3 credit hour(s)**
- EDUC 2264 - Reading and Writing across the Curriculum in Secondary Education **3 credit hour(s)**
- EDUC 2284 - Effective Teaching Methods and Strategies **3 credit hour(s)**
- EDUC 2286 - Curriculum Development Assessment and Evaluation II **3 credit hour(s)**
- EDUC 2190 - Supervised Field Experience **3 credit hour(s)**

## **Alternative Teacher Licensure, Certificate of Completion in Secondary Education 18 credit hours**

## **Alternative Teacher Licensure (Post Degree Certificate of Completion), Special Education Concentration**

### **School of Communication, Humanities & Social Sciences (CHSS)**

CNM offers a state-accredited program based on The National Council for Accreditation of Teacher Education (NCATE) standards for Alternative Teacher Licensure with certificates in, Elementary Education, Secondary Education, and Special Education. For students currently in the Alternative Teacher Licensure Program or licensed teachers, CNM offers coursework that can be applied to endorsements in Gifted Education, Teaching English to Speakers of Other Languages (TESOL) and Bilingual Education.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Alternative Teacher Licensure Program (ATLP) Application
- **Bachelor's Degree**

### **Recommended Sequence of Courses**

Program Requirements

- SPED 2250 - Foundations of Special Education **3 credit hour(s)**
- SPED 2258 - Classroom and Behavior Management for Students with Special Needs **3 credit hour(s)**
- EDUC 2285 - Curriculum Development Assessment and Evaluation I **3 credit hour(s)**
- EDUC 2260 - Emergent Literacy **3 credit hour(s)**
- SPED 2260 - Methods and Materials for Special Education **3 credit hour(s)**
- SPED 2272 - Reading for Special Learners **3 credit hour(s)**
- SPED 2390 - Special Education Supervised Field Experience **3 credit hour(s)**

## **Alternative Teacher Licensure, Certificate of Completion in Special Education 21 credit hours**

# Anthropology

## Anthropology, Associate of Arts

### School of Communication, Humanities & Social Sciences (CHSS)

Anthropology is the scientific study of human beings, both past and present, in all parts of the world. Anthropology has traditionally been divided into four distinct, but interrelated sub-disciplines or fields: Biological/Physical Anthropology; Archaeology; Cultural Anthropology; and Linguistic Anthropology. Applied anthropology applies the concepts, methods, and skills of anthropologists in solving community problems.

This program is designed to meet the requirements for an Associate of Arts in Anthropology from CNM and prepare a student to obtain a Bachelor of Arts in Anthropology from a 4-year college or university.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ANTH 1101 - Intro Anthropology **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**

#### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

#### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Elective 3 credit hour(s)**

#### Term 4

- **Fine Arts Requirement 3 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**
- **Program Approved Elective 3 credit hour(s) (2000 level)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Associate of Arts in Anthropology 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Anthropology. Specific requirements for transfer

will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

Please consult the UNM Anthropology Department's Major Study Requirements to choose CNM courses according to your intended concentration at UNM.

## Program Approved Electives

\*Students planning to transfer to University of New Mexico should choose courses based on pathways to concentrations in Ethnography, Physical Anthropology, or Archeology.

### 1000 - Level Anthropology Courses

- ANTH 1110 - Language Culture and the Human Animal **3 credit hour(s)**
- ANTH 1120 - Archaeology: Discovering Our Past **3 credit hour(s)**
- ANTH 1121/1192 - Archaeological Field Methods with Laboratory **4 credit hour(s)**
- ANTH 1130 - Cultures of the World **3 credit hour(s)**
- ANTH 1150 - Evolutionary Anthropology **3 credit hour(s)**

### 2000 - Level Anthropology Courses

- ANTH 2096-2996 - Special Topics **3 credit hour(s)**
- ANTH 2290 - Anthropology Practicum **Variable credit hour(s)**
- ANTH 2222 - Ancient Mesoamerica **3 credit hour(s)**
- ANTH 2231 - North American Indians **3 credit hour(s)**
- ANTH 2238 - Cultures Of the Southwest **3 credit hour(s)**
- ANTH 2251 - Forensic Anthropology **3 credit hour(s)**
- ANTH 2255 - Southwestern Archaeology **3 credit hour(s)**
- ANTH 2265 - The Anthropology of Drugs **3 credit hour(s)**

## Apprenticeships

### Commercial Carpentry Apprenticeship

#### School of Applied Technologies (AT)

The Commercial Carpentry Apprenticeship (CCAP) courses are for partnering agencies with state-certified apprenticeship programs. Students must be part of a carpentry apprenticeship program or be employed in the carpentry construction industry.

Courses are offered in conjunction with the Associated Builders and Contractors (ABC) and the Carpenters Educational Program. The program provides related classroom instruction.

Students must purchase textbooks and instructional materials through ABC or Carpenters Educational Program Local 1319 offices.

### Electrical Trades Apprenticeship

#### School of Applied Technologies (AT)

The Electrical Trades Apprenticeship (ETAP) courses are for partnering agencies with state-certified apprenticeship programs. Students must be members of an electrical apprenticeship program or be employed in the electrical industry.

Courses are offered in conjunction with the Independent Electrical Contractor Association (IEC), Associated Builders and Contractors (ABC) and the Joint Apprenticeship and Training Committee for the Electrical Industry (JATC).

Students must purchase textbooks and instructional material through IEC, ABC or JATC.

### General Trades Apprenticeship

#### School of Applied Technologies (AT)

The General Trades Apprenticeship (course subject code: GTAP), for persons currently employed in the general trades industry, is

offered in conjunction with the local industry. The program provides related classroom instruction. Students must purchase textbooks and instructional materials through the sponsoring agency.

## **Industrial Plant Maintenance Apprenticeship**

### **School of Applied Technologies (AT)**

The Industrial Plant Maintenance Apprenticeship (course subject code: IMAP), for persons currently employed full time in the industrial plant maintenance industry, will be offered in conjunction with local industries.

The program provides related classroom instruction. Students must purchase books and instructional materials through the sponsoring industries.

## **Iron Worker Apprenticeship**

### **School of Applied Technologies (AT)**

The Iron Worker Apprenticeship (IWAP) courses are for partnering agencies with state-certified apprenticeship programs. Students must be part of an iron worker apprenticeship program or be employed in the iron working industry.

Courses are offered in conjunction with Iron Workers Local 495. The program provides related classroom instruction.

Students must purchase textbooks and instructional material through the Iron Workers Local 495 office.

## **Plumbing Apprenticeship**

### **School of Applied Technologies (AT)**

The Plumbing Apprenticeship courses are for partnering agencies with state-certified apprenticeship programs. Students must be part of a plumbing apprenticeship program or be employed in the plumbing industry.

Courses are offered in conjunction with the Associated Builders and Contractors (ABC) and Plumbers and Pipefitters Local 412.

Students must purchase textbooks and instructional material through ABC or Plumbers and Pipefitters Local 412 offices.

## **Sheet Metal Apprenticeship**

### **School of Applied Technologies (AT)**

The Sheet Metal Apprenticeship courses are for partnering agencies with state-certified apprenticeship programs. Students must be part of a sheet metal apprenticeship program or be employed in the sheet metal industry.

Courses are offered in conjunction with the Associated Builders and Contractors (ABC) and Sheet Metal Workers Local 49.

Students must purchase textbooks and instructional material through ABC or Sheet Metal Workers Local 49 offices.

## **Architectural/Engineering Drafting Technology**

### **Architectural/Engineering Drafting Technology, Associate of Applied Science**

#### **School of Applied Technologies (AT)**

The ARDR program utilizes up-to-date computer-aided drafting software applications to train drafting technicians for the building construction industry. Drafting is taught in combination with the principles of architectural/engineering graphic conventions and the theory and practice of construction technology. The curriculum also concentrates on the development of communication, teamwork, and problem solving skills necessary to prepare students for the architectural/engineering office environment.

**For information, contact the School of Applied Technologies (AT).**

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- **Math Proficiency 2**



- **Reading & Writing Proficiency 2**

## Recommended Sequence of Courses

### Term 1

- ARDR 1010 - CAD Analysis I **2 credit hour(s)**
- ARDR 1101 - Building Materials and Methods I **3 credit hour(s)**
- ARDR 1115 - Residential Drafting **4 credit hour(s)**
- CAD 1001 - Basics of CAD **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

**Either Term 2 or Term 3 courses may be taken directly after the completion of Term 1 courses**

- ARDR 1201 - Building Materials and Methods II **3 credit hour(s)**
- ARDR 1215 - Commercial Drafting (Bearing Wall) **4 credit hour(s)**
- ARDR 1221 - Commercial Drafting Software Applications (Bearing Wall) **2 credit hour(s)**
  
- ARDR 2180 - Site Analysis **2 credit hour(s)**  
or
- **Program Approved Elective 2-3 credit hour(s)**
  
- ARCH 1121 - Introduction to Architecture **3 credit hour(s)**  
or
- ARTH 2260 - Architectural History: Ancient through Modern **3 credit hour(s)**  
or
- **AAS Choice Requirement 3 credit hours**

### Term 3

**Either Term 2 or Term 3 courses may be taken directly after the completion of Term 1 courses.**

- ARDR 1301 - Building Materials and Methods III **3 credit hour(s)**
- ARDR 1315 - Commercial Drafting (Skeletal Frame) **4 credit hour(s)**
  
- ARDR 1316 - Building Information Modeling Applications **3 credit hour(s)**  
or
- **Program Approved Elective 2-3 credit hour(s)**
  
- ARDR 1321 - Commercial Drafting Software Applications (Skeletal Frame) **2 credit hour(s)**
- **AAS Written Communication Requirement 3 credit hours**

### Term 4

**Either Term 4 or Term 5 classes may be taken after completing Term 2 and Term 3 courses.**

- ARDR 2105 - Structural Systems CAD **4 credit hour(s)**
- ARDR 2110 - Structural Systems Analysis **3 credit hour(s)**
- ARDR 2120 - Structural Systems Software Applications **2 credit hour(s)**
- **AAS Mathematics Requirement 3-4 credit hour(s)**

## Term 5

Either Term 4 or Term 5 classes may be taken after completing Term 2 and Term 3 courses.

- ARDR 2205 - Mechanical/Electrical/Plumbing Systems CAD **4 credit hour(s)**
- ARDR 2210 - Mechanical/Electrical Systems Analysis **3 credit hour(s)**
- ARDR 2220 - Mechanical/Electrical/Plumbing Systems Software Applications **2 credit hour(s)**
- ARDR 2999 - ARDR Seminar II **1 credit hour(s)**
- **AAS Human Relations Requirement 3 credit hours**

## Associate of Applied Science in Architectural/Engineering Drafting Technology 66-69 credit hours

### Program Approved Electives

- ARDR 1110 - Architectural Mathematics **3 credit hour(s)**
- ARDR 1316 - Building Information Modeling Applications **3 credit hour(s)**
- ARDR 1480 - Architectural Design **2 credit hour(s)**
- ARDR 2295 - Cooperative Education **3 credit hour(s)**
- ARDR 2297 - Independent Study **1-7 credit hour(s)**
- ARDR 2298 - Internship **1-4 credit hour(s)**
- ARDR 2316 - AutoCAD Applications **3 credit hour(s)**
- ARDR 2096-2996 - Special Topics **1-7 credit hour(s)**
- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- AT 1020 - Applied Technologies in Design **3 credit hour(s)**

## Architectural/Engineering Drafting Technology, Certificate of Completion

### School of Applied Technologies (AT)

The ARDR certificate of completion program utilizes up-to-date computer-aided drafting software applications to train drafters for the building construction industry. The curriculum concentrates primarily on residential and commercial building construction technology and document preparation specific to the architectural discipline.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- **Math Proficiency 2**
- **Reading & Writing Proficiency 2**

### Recommended Sequence of Courses

#### Term 1

- ARDR 1010 - CAD Analysis I **2 credit hour(s)**
- ARDR 1101 - Building Materials and Methods I **3 credit hour(s)**
- ARDR 1115 - Residential Drafting **4 credit hour(s)**
- CAD 1001 - Basics of CAD **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

Either Term 2 or Term 3 courses may be taken directly after the completion of Term 1 courses.

- ARDR 1201 - Building Materials and Methods II **3 credit hour(s)**
  - ARDR 1215 - Commercial Drafting (Bearing Wall) **4 credit hour(s)**
  - ARDR 1221 - Commercial Drafting Software Applications (Bearing Wall) **2 credit hour(s)**
- 
- ARDR 2180 - Site Analysis **2 credit hour(s)**  
or
  - **Program Approved Elective 2-3 credit hour(s)**

### Term 3

**Either Term 2 or Term 3 courses may be taken directly after the completion of Term 1 courses.**

- ARDR 1301 - Building Materials and Methods III **3 credit hour(s)**
  - ARDR 1315 - Commercial Drafting (Skeletal Frame) **4 credit hour(s)**
- 
- ARDR 1316 - Building Information Modeling Applications **3 credit hour(s)**  
or
  - **Program Approved Elective 2-3 credit hour(s)**
- 
- ARDR 1321 - Commercial Drafting Software Applications (Skeletal Frame) **2 credit hour(s)**

## **Architectural/Engineering Drafting Technology, Certificate of Completion 35-37 credit hours**

### Program Approved Electives

- ARDR 1110 - Architectural Mathematics **3 credit hour(s)**
- ARDR 1316 - Building Information Modeling Applications **3 credit hour(s)**
- ARDR 1480 - Architectural Design **2 credit hour(s)**
- ARDR 2295 - Cooperative Education **3 credit hour(s)**
- ARDR 2297 - Independent Study **1-7 credit hour(s)**
- ARDR 2298 - Internship **1-4 credit hour(s)**
- ARDR 2316 - AutoCAD Applications **3 credit hour(s)**
- ARDR 2096-2996 - Special Topics **1-7 credit hour(s)**

## **Automotive Technology**

### **Automotive Service Fundamentals, Certificate of Achievement**

#### **School of Applied Technologies (AT)**

Students who earn certificates in their chosen concentration are encouraged to earn an Associate Degree in Transportation Technology by taking academic and related trades classes, including welding, OSHA compliance, environmental protection, communication, English and physical science. Upon completion of the associate degree program, graduates will be eligible for entry level employment at automotive or medium/heavy duty equipment dealerships and independent repair facilities. Graduates have the potential to work in management and other related areas of service operations.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### **Recommended Sequence of Courses**

## Term 1

- AUTC 1110 - Introduction to Automotive Systems **4 credit hour(s)**
- AUTC 1120 - Brake Systems **3 credit hour(s)**
- AUTC 1130 - Suspension and Alignment **3 credit hour(s)**
- AUTC 1140 - Automotive Electrical **4 credit hour(s)**

## Certificate in Automotive Service Fundamentals 14 credit hours

### Automotive Technology, Certificate of Completion

#### School of Applied Technologies (AT)

Entering students will study, through lecture and hands-on training, the fundamentals of automotive service, which includes an introduction to automotive systems, and further study in the ASE automotive specialty areas of: brakes, steering and suspension and electrical systems. Automotive Technology students will continue their career preparation by studying the more advanced principles of automotive service and repair, which includes course work in the following ASE specialty areas: Engine Repair, Automatic Transmission, Manual Drive Train, Electrical/Electronic Systems, Heating and Air Conditioning and Engine Performance. Upon completion of the Automotive Service Fundamentals Certificate program, graduates will be eligible for entry level employment at facilities focused on under-car repair and service. Upon completion of the Automotive Technology Certificate program, graduates will be eligible for entry level employment at dealerships and independent repair facilities.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### Recommended Sequence of Courses

#### Term 1

- AUTC 1110 - Introduction to Automotive Systems **4 credit hour(s)**
- AUTC 1120 - Brake Systems **3 credit hour(s)**
- AUTC 1130 - Suspension and Alignment **3 credit hour(s)**
- AUTC 1140 - Automotive Electrical **4 credit hour(s)**

#### Term 2

- AUTC 1210 - Manual Transmissions **3 credit hour(s)**
- AUTC 1220 - Engine Repair **4 credit hour(s)**
- AUTC 1230 - Automatic Transmissions **4 credit hour(s)**
- AUTC 1240 - Automotive Electronics **3 credit hour(s)**

#### Term 3

- AUTC 2111 - Air Conditioning and Heating **2 credit hour(s)**
- AUTC 2120 - Engine Performance I **3 credit hour(s)**
- AUTC 2130 - Engine Performance II **4 credit hour(s)**
- AUTC 2198 - Automotive Internship **1 credit hour(s)**

## Certificate of Completion in Automotive Technology 38 credit hour(s)

### Transportation Technology (AAS), Automotive Technology Concentration

#### School of Applied Technologies (AT)

Students who earn certificates in their chosen concentration are encouraged to earn an Associate Degree in Transportation Technology by taking academic and related trades classes, including welding, OSHA compliance, environmental protection, communication,

English and physical science. Upon completion of the associate degree program, graduates will be eligible for entry level employment at automotive or medium/heavy duty equipment dealerships and independent repair facilities. Graduates have the potential to work in management and other related areas of service operations.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- AUTC 1110 - Introduction to Automotive Systems **4 credit hour(s)**
- AUTC 1120 - Brake Systems **3 credit hour(s)**
- AUTC 1130 - Suspension and Alignment **3 credit hour(s)**
- AUTC 1140 - Automotive Electrical **4 credit hour(s)**

### Term 2

- AUTC 1210 - Manual Transmissions **3 credit hour(s)**
- AUTC 1220 - Engine Repair **4 credit hour(s)**
- AUTC 1230 - Automatic Transmissions **4 credit hour(s)**
- AUTC 1240 - Automotive Electronics **3 credit hour(s)**

### Term 3

- AUTC 2111 - Air Conditioning and Heating **2 credit hour(s)**
- AUTC 2120 - Engine Performance I **3 credit hour(s)**
- AUTC 2130 - Engine Performance II **4 credit hour(s)**
- AUTC 2198 - Automotive Internship **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 4

- ENG 1101 - College Writing **3 credit hour(s)**
  
- TRDR 1420 - Class B Theory and Operational Practices **9 credit hour(s)**  
**or**
- AUTC 2250 - Transportation Alternative Fuels **2 credit hour(s)**  
**and**
- OSH 2016 - Occupational Safety I **1 credit hour(s)**  
**and**
- WELD 1062 - Welding Fundamentals **3 credit hour(s)**

### Term 5

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- AUTC 2999 - Transportation Technology Capstone **1 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s) (or higher)**
  
- **Humanities/Fine Arts Elective 3 credit hour(s)**  
**or**

- **Social/Behavioral Science Elective 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## **Associate of Applied Science Degree in Transportation Technology, Concentration in Automotive Technology 63-67 credit hours**

### **Program Approved Elective**

- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- AT 1040 - Applied Technologies in Transportation **3 credit hour(s)**
- AUTC 2096-2996 - Special Topics **1-7 credit hour(s)**
- DETC 2096-2996 - Special Topics **1-7 credit hour(s)**

## **Aviation Technology**

### **Airframe Maintenance Technician, Certificate of Completion**

#### **School of Applied Technologies (AT)**

The Airframe Maintenance Technician certificate prepares students for licensure as Federal Aviation Administration (FAA) certified airframe mechanics. Graduates will be qualified for employment in entry level position in the aircraft maintenance and manufacturing fields. The curriculum will meet FAA requirement for student in general and airframe subject areas.

### **Career and Advancement Opportunities**

These programs are positioned to help provide a sustainable workforce for the emerging aviation manufacturing industry cluster in Albuquerque and New Mexico. The aviation companies that have selected Albuquerque to establish manufacturing and assembly facilities will require Federal Aviation Administration (FAA) certified maintenance technicians as part of their assembly processes and after-sales servicing centers.

### **Contact Information**

Program information is available from the School of Applied Technologies.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

##### **Aviation General Subjects**

- AVMT 1005 - Aviation Math **3 credit hour(s)**
- AVMT 1010 - Aviation Science **3 credit hour(s)**
- AVMT 1015 - Materials & Processes **3 credit hour(s)**
- AVMT 1020 - Maintenance Forms & Publications **3 credit hour(s)**
- AVMT 1025 - Basic Electricity **5 credit hour(s)**

#### **Term 2**

##### **Airframe Core 1**

- AVMT 1105 - Airframe Electrical **3 credit hour(s)**
- AVMT 1110 - A/C Materials & Finishes **4 credit hour(s)**

- AVMT 1115 - A/C Sheet Metal **5 credit hour(s)**
- AVMT 1120 - A/C Assembly & Rigging **4 credit hour(s)**

## Term 3

### Airframe Core 2

- AVMT 1125 - A/C Landing Gear Systems **3 credit hour(s)**
- AVMT 1130 - A/C Fuel Systems **2 credit hour(s)**
- AVMT 1135 - A/C Environmental Systems **3 credit hour(s)**
- AVMT 1140 - A/C Instruments **3 credit hour(s)**
- AVMT 1145 - Airframe Inspection **4 credit hour(s)**

## Certificate of Completion in Airframe Maintenance Technician 48 credit hours

## Aviation Maintenance Technology, Associate of Applied Science

### School of Applied Technologies (AT)

The maintenance technician degree prepare students for certification as Federal Aviation Administration (FAA) certified Airframe and Powerplant (A&P) Technician. Upon completion of the program, graduates will be prepared and equipped to take the FAA written, oral and practical exam. These programs are FAA part 147 approved (FAA #Q8UT5734K).

## Career Opportunities

Graduates who pass the FAA exams will be qualified for employment in entry level positions in the aviation maintenance and manufacturing fields, and other fields requiring highly trained technicians.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

#### Aviation General Subjects

- AVMT 1005 - Aviation Math **3 credit hour(s)**
- AVMT 1010 - Aviation Science **3 credit hour(s)**
- AVMT 1015 - Materials & Processes **3 credit hour(s)**
- AVMT 1020 - Maintenance Forms & Publications **3 credit hour(s)**
- AVMT 1025 - Basic Electricity **5 credit hour(s)**

### Term 2

#### Airframe Core 1

- AVMT 1105 - Airframe Electrical **3 credit hour(s)**
- AVMT 1110 - A/C Materials & Finishes **4 credit hour(s)**
- AVMT 1115 - A/C Sheet Metal **5 credit hour(s)**
- AVMT 1120 - A/C Assembly & Rigging **4 credit hour(s)**

### Term 3

#### Airframe Core 2

- AVMT 1125 - A/C Landing Gear Systems **3 credit hour(s)**

- AVMT 1130 - A/C Fuel Systems **2 credit hour(s)**
- AVMT 1135 - A/C Environmental Systems **3 credit hour(s)**
- AVMT 1140 - A/C Instruments **3 credit hour(s)**
- AVMT 1145 - Airframe Inspection **4 credit hour(s)**

## Term 4

### Powerplant Core 1

- AVMT 1305 - Powerplant Electrical **2 credit hour(s)**
- AVMT 1310 - Reciprocating Eng. 1 **3 credit hour(s)**
- AVMT 1315 - Reciprocating Eng. 2 **4 credit hour(s)**
- AVMT 1320 - Turbine Engines **4 credit hour(s)**
- AVMT 1325 - Powerplant Systems 1 **3 credit hour(s)**

## Term 5

### Powerplant Core 2

- AVMT 1330 - Propellers **2 credit hour(s)**
- AVMT 1335 - Powerplant Fuel Systems **5 credit hour(s)**
- AVMT 1340 - Powerplant Systems 2 **4 credit hour(s)**
- AVMT 1345 - Engine Inspection **4 credit hour(s)**

## Term 6

- **AAS Choice Requirement 3 credit hour(s)**
- **AAS Human Relations Requirement 3 credit hour(s)**
- **AAS Mathematics Requirement 3-4 credit hour(s)**
- **AAS Written Communication Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Associate of Applied Science in Aviation Maintenance Technology 94-95 credit hours

### Powerplant Maintenance Technician, Certificate of Completion

#### School of Applied Technologies (AT)

The Aviation Powerplant Maintenance Technician certificate prepares students for certification as Federal Aviation Administration (FAA) certified Powerplant Technician. Upon completion of the program, graduates will be prepared and equipped to take the FAA written, oral and practical exam. These programs are FAA part 147 approved (FAA #Q8UT5734K).

Graduates who pass the FAA exams will be qualified for employment in entry level positions in the aviation maintenance and manufacturing fields, and other fields requiring highly trained technicians.

Gainful Employment information is available from Job Connection Services.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

##### Aviation General Subjects



- AVMT 1005 - Aviation Math **3 credit hour(s)**
- AVMT 1010 - Aviation Science **3 credit hour(s)**
- AVMT 1015 - Materials & Processes **3 credit hour(s)**
- AVMT 1020 - Maintenance Forms & Publications **3 credit hour(s)**
- AVMT 1025 - Basic Electricity **5 credit hour(s)**

## Term 2

### Powerplant Core 1

- AVMT 1305 - Powerplant Electrical **2 credit hour(s)**
- AVMT 1310 - Reciprocating Eng. 1 **3 credit hour(s)**
- AVMT 1315 - Reciprocating Eng. 2 **4 credit hour(s)**
- AVMT 1320 - Turbine Engines **4 credit hour(s)**
- AVMT 1325 - Powerplant Systems 1 **3 credit hour(s)**

## Term 3

### Powerplant Core 2

- AVMT 1330 - Propellers **2 credit hour(s)**
- AVMT 1335 - Powerplant Fuel Systems **5 credit hour(s)**
- AVMT 1340 - Powerplant Systems 2 **4 credit hour(s)**
- AVMT 1345 - Engine Inspection **4 credit hour(s)**

## Certificate of Completion in Powerplant Maintenance **48 credit hours**

# Biology

## Biology, Associate of Science

### School of Math, Science & Engineering (MSE)

Students majoring in biology examine the structure and function of the living world. Interested students can learn about career opportunities and pathways in Biology and related fields from the American Institute of Biological Sciences.

This program is designed to meet the requirements for an Associate of Science in Biology from CNM and prepare a student to obtain a Bachelor of Science in Biology at the University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the UNM Biology department. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **MATH 1315 or (MATH 1410 and MATH 1415) or MATH 1530**
- **Reading & Writing Proficiency 2**

### Recommended Sequence of Courses

#### Term 1

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**  
**and**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**

- CHEM 1710 - General Chemistry I **3 credit hour(s)**  
**and**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 2

- BIO 1610 - Genetics **3 credit hour(s)**  
**and**
- BIO 1692 - Genetics Laboratory **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**  
**and**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 3

- BIO 2410 - Ecology & Evolution **3 credit hour(s)**  
**and**
- BIO 2492 - Ecology & Evolution Laboratory **1 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**  
**or**
- MATH 1710 - Calculus I **4 credit hour(s)**
- PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**  
**or**
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**

## Term 4

- BIO 2510 - Plant & Animal Form and Function **3 credit hour(s)**  
**and**
- BIO 2592 - Plant & Animal Form and Function Laboratory **1 credit hour(s)**
- **Humanities/Fine Arts Requirement 3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**  
**or**

- MATH 1715 - Calculus II **4 credit hour(s)**
- PHYS 1610 - Algebra-Based Physics II **4 credit hour(s)**  
or
- PHYS 1810 - Calculus-Based Physics II **4 credit hour(s)**

## Associate of Science in Biology 62 - 64 credit hours

### Notes

**Additional courses beyond the AS Degree requirements may be taken at CNM and applied toward a four year degree program. This coursework includes:**

an additional Humanities/Fine Arts or Social/Behavioral Science General Education course (3 credit hours)

- CHEM 2710 - Organic Chemistry I (3 credit hours)\*
- CHEM 2792 - Organic Chemistry I Laboratory (1 credit hour)\*

\*These courses will fulfill the equivalent 300-level Organic Chemistry degree requirement at UNM, but will not transfer to UNM as upper division courses. These classes cannot be used to fulfill UNM's minimum upper division credit hour requirement for Bachelor degrees.

This information is meant to serve as a general guide for students intending to major in Biology. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

## Biotechnology

### Biotechnology, Associate of Science

#### School of Math, Science & Engineering (MSE)

The Biotechnology Program prepares students for transfer to a four year program in Biology with a concentration in the dynamic and exciting field of Biotechnology. Four year degree graduates can expect to compete for positions as biotechnicians where they will use cutting-edge technology to uncover the molecular causes of disease, develop new drugs and therapies, enhance agricultural products or remediate environmental problems. Biotechnicians conduct research experiments, run assays, operate lab equipment, and help manage laboratory activities by maintaining records, performing data analysis, and establishing and maintaining quality controls. Students in the Biotechnology Program build knowledge and skills through a program of lectures and hands-on laboratory experience. Laboratory techniques include molecular biology, recombinant DNA, protein isolation and analysis, immunology and cell culture skills.

The Associate of Science degree is designed for students who wish to acquire the skills necessary to work in the field of biotechnology. Students will receive classroom training in the fundamentals of biology and chemistry, as well as skills taught in biotechnology core courses. The majority of the coursework is intended to fulfill the basic introductory requirements of a Bachelor of Science degree at a four year institution. The specific biotechnology coursework is intended to supplement that coursework with skills and abilities that will provide graduates with a competitive edge when seeking employment or applying for graduate programs. An articulation agreement between CNM and the University of New Mexico allows all CNM biotechnology coursework to be applied to the UNM Bachelor of Science degree in Biology and constitutes a concentration in Biotechnology.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **MATH 1315 or (MATH 1410 and MATH 1415) or MATH 1530**
- **Reading & Writing Proficiency 2**

### Recommended Sequence of Courses

#### Term 1

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**  
**or**
- MATH 1710 - Calculus I **4 credit hour(s)**

## Term 2

- BIO 1610 - Genetics **3 credit hour(s)**
- BIO 1692 - Genetics Laboratory **1 credit hour(s)**
- BIOT 1020 - Biotechnology I **4 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
  
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**  
**or**
- MATH 1715 - Calculus II **4 credit hour(s)**

## Term 3

- BIO 2410 - Ecology & Evolution **3 credit hour(s)**
- BIO 2492 - Ecology & Evolution Laboratory **1 credit hour(s)**
- BIOT 2110 - Biotechnology II **4 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 4

- BIO 2510 - Plant & Animal Form and Function **3 credit hour(s)**
- BIO 2592 - Plant & Animal Form and Function Laboratory **1 credit hour(s)**
- BIOT 2210 - Biotechnology III **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Science in Biotechnology 68-70 credit hours

### Biotechnology, Certificate of Completion

#### School of Math, Science & Engineering (MSE)

The Biotechnology Program prepares students for transfer to a four year program in Biology with a concentration in the dynamic and exciting field of biotechnology. Four year degree graduates can expect to compete for positions as biotechnicians where they will use cutting-edge technology to uncover the molecular causes of disease, develop new drugs and therapies, enhance agricultural products or remediate environmental problems. Biotechnicians conduct research experiments, run assays, operate lab equipment, and help manage laboratory activities by maintaining records, performing data analysis, and establishing and maintaining quality controls. Students in the Biotechnology Program build knowledge and skills through a program of lectures and hands-on laboratory experience. Laboratory techniques include molecular biology, recombinant DNA, protein isolation and analysis, immunology and cell culture skills.

See Recommended Sequence of Courses

The Certificate in Biotechnology is designed for students who wish to acquire or upgrade their hands-on laboratory skills in biotechnology. The certificate is composed solely of foundational biology and chemistry courses and biotechnology core courses. The certificate is intended to supplement the education of CNM students pursuing the Associate of Science in Biology or students pursuing a Bachelor of Science degree at a four year institution.

The Certificate of Completion is also designed for students who wish to acquire the skills necessary to work in the field of biotechnology. Students will receive classroom training in the fundamentals of biology and chemistry, as well as skills taught in biotechnology core courses. The specific biotechnology coursework is intended to supplement a basic biology curriculum with skills and abilities that will provide graduates with a competitive edge when seeking employment or applying for graduate programs. An articulation agreement between CNM and the University of New Mexico allows all CNM biotechnology coursework to be applied to the UNM Bachelor of Science degree in Biology and constitutes a concentration in Biotechnology.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Required Sequence of Courses

### Term 1

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s) (MATH 1315 recommended) \***

### Term 2

- BIO 1610 - Genetics **3 credit hour(s)**
- BIO 1692 - Genetics Laboratory **1 credit hour(s)**
- BIOT 1020 - Biotechnology I **4 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**

### Term 3

- BIOT 2110 - Biotechnology II **4 credit hour(s)**

### Term 4

- BIOT 2210 - Biotechnology III **3 credit hour(s)**

## Certificate in Biotechnology 30-31 credit hours

\* MATH 1315 is a prerequisite for CHEM 1810.

## Brewing & Beverage Management

### Beverage Management, Certificate of Completion

#### School of Business & Information Technology (BIT)

The Beverage Management Certificate of Completion will prepare students to work in the bar and beverage industry. Students will study safety, sanitation, supervisory skills, human relations, purchasing, cost controls, hospitality law, guest services, food pairing and menu management, and other general coursework.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BEV 1100 - Beer Production and Styles **1 credit hour(s)**
- BEV 1160 - Beverage Service I **3 credit hour(s)**
- CULN 1003 - Food Safety Principles **1 credit hour(s)**
  
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**  
**and**
- CULN 1110 - Culinary Skills **4 credit hour(s)**  
**or**
- HT 1101 - Introduction to Tourism **3 credit hour(s)**
  
- HT 1111 - Guest Service Management **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- BEV 1192 - Draught Systems **1 credit hour(s)**
- BEV 2160 - Beverage Service II **3 credit hour(s)**
- HT 2240 - Hospitality Law **3 credit hour(s)**
- HT 2215 - Purchasing and Cost Controls **3 credit hour(s)**
- **Program Approved Elective 3-5 credits**

## Certificate of Completion in Beverage Management, 25-31 credit hours

### Program Approved Electives

- **Any HT course (not already required in this program)**
- **Any CULN course (not already required in this program)**
- **Any BEV course (not already required in this program)**

## Brewing and Beverage Management (AAS)

### School of Business & Information Technology (BIT)

The Brewing and Beverage Management Program will prepare students for a career as beverage managers working in the beverage and brewing industry. In addition to brewing technology, students are exposed to the underlying sciences behind beer production, including biology and chemistry courses. Students will also be introduced to purchasing, cost controls, marketing and business/hospitality law.

Brewing & Beverage Management is an excellent field for individuals seeking a challenging career in a rapidly growing industry. The associate degree is a four term program. Students will study brewing equipment and technology, draught beer technology, beer recipe formulation, brewing and cellaring skills, safety, sanitation, chemistry, biology and microbiology, supervisory skills, human relations, guest services, food pairing and menu management, and other general coursework. Classes include classroom and lab time.

## Special Requirements

Students must be at least 21 years of age or older at the start of term for all BEV courses, except BEV 1160

Students must be able to repeatedly lift 55 pounds

Students must be able to be on their feet for 8 hours

Students must be able to work in a hot environment for 8 hours

Students must be willing to taste beer in small quantities for analysis

## **Additional tools or supplies required for this educational option**

Students are required to purchase chef's uniforms, textbooks, and tools

## **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3
- Reading & Writing Proficiency 2

## **Recommended Sequence of Courses**

### **Term 1**

- **AAS Written Communication Requirement 3 credit hour(s)**
- BEV 1100 - Beer Production and Styles **1 credit hour(s)**
- BEV 1110 - Brewing Equipment and Maintenance **4 credit hour(s)**
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**
- CULN 1003 - Food Safety Principles **1 credit hour(s)**
- HT 1111 - Guest Service Management **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### **Term 2**

**AAS Mathematics Requirement 3-4 credit hour(s)**  
(Except MATH 1210)

- BEV 1130 - Beer Production I **3 credit hour(s)**
- BEV 1160 - Beverage Service I **3 credit hour(s)**
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
- HT 1101 - Introduction to Tourism **3 credit hour(s)**

### **Term 3**

- BEV 1140 - Beer Production II **3 credit hour(s)**
- BEV 2160 - Beverage Service II **3 credit hour(s)**
- BIO 2110 - Microbiology **3 credit hour(s)**
- CHEM 2210 - Organic Chemistry and Biochemistry **4 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

### **Term 4**

- BEV 1192 - Draught Systems **1 credit hour(s)**
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- HT 2240 - Hospitality Law **3 credit hour(s)**
- HT 2215 - Purchasing and Cost Controls **3 credit hour(s)**
- **Program Approved Electives 3 credit hours**

**Associate of Applied Science in Brewing and Beverage Management 62-63 credit hours**

## Program Approved Electives

- **Any BEV Course (except those required for the degree)**
- **Any CULN Course (except those required for the degree)**
- **Any HT Course (except those required for the degree)**
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)**
- CULN 2095 - Cooperative Education **3 credit hour(s)**
- CULN 2096-2996 - Special Topics **1-3 credit hour(s)**
- CULN 2097 - Independent Study **1-10 credit hour(s)**
- CULN 2098 - Internship **3 credit hour(s)**
- CULN 2195 - Cooperative Education **1 credit hour(s)**
- CULN 2198 - Internship **1 credit hour(s)**
- CULN 2295 - Cooperative Education **2 credit hour(s)**
- CULN 2298 - Internship **2 credit hour(s)**

## Brewing Technology, Certificate of Achievement

### School of Business & Information Technology (BIT)

The Brewing Technology Certificate of Achievement provides students with the knowledge and skills to enter into the brewing industry in entry level positions. These courses include brewing equipment and maintenance, beer production and styles, food safety principles. Topic include:

Beer production & styles

Brewing equipment & maintenance

Draught beer technology

Brewhouse operations

Cellar operations

Food safety and workplace safety

Students learn the basics of beer production and recipe formulation. Students will apply their knowledge of beer production in hands-on laboratory-style classes located both on-campus and in commercial-scale breweries. This Certificate emphasizes the knowledge of equipment, technology, and skills required of entry-level employees in commercial-scale breweries.

The Brewing Technology Certificate is a required part of the associate of applied science degree in brewing & beverage management.

## Special Requirements

Students must be at least 21 years of age or older at the start of term for all BEV courses except BEV 1160

Students must be able to repeatedly lift 55 pounds

Students must be able to stand for the duration of the laboratory class

This program includes production, identification, and evaluation of alcoholic beverages. Students are urged to consider their ability to consume alcohol before enrolling in this program. If you have concerns about the role of alcohol consumption in this program, please contact an Academic Coach or the BIT School Advisor.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

Term 1



- BEV 1100 - Beer Production and Styles **1 credit hour(s)**
- BEV 1110 - Brewing Equipment and Maintenance **4 credit hour(s)**
- BEV 1130 - Beer Production I **3 credit hour(s)**
- BEV 1140 - Beer Production II **3 credit hour(s)**
- BEV 1192 - Draught Systems **1 credit hour(s)**
- CULN 1003 - Food Safety Principles **1 credit hour(s)**

## Certificate of Achievement in Brewing Technology, 13 credit hours

### Business

#### Business Administration, Associate of Applied Science

##### School of Business & Information Technology (BIT)

The Business Administration program provides opportunities for the business leaders of tomorrow to achieve a high-quality, high-value education that enables them to succeed in a competitive market. Students participate in hands-on experiences, community projects and conduct real-world research. Students use technology and business concepts such as accounting, business law, entrepreneurship, management, marketing and professionalism, to work in teams, solve business problems and make decisions. A number of the Business Administration courses are offered online.

The associate degree is also available in a cohorted fast track program. Contact the School of Business & Information Technology for more information.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- ACCT 1109 - Business Math **3 credit hour(s)**  
or
- **Approved Math Course 3-4 credit hour(s)**
  
- BA 1121 - Business English **3 credit hour(s)**  
or
- **AAS Written Communication Requirement 3 credit hour(s)**
  
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

##### Term 2

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1105 - Introduction to Entrepreneurship **3 credit hour(s)**
- BA 2100 - Basics of Global Business **3 credit hour(s)**
- BA 2133 - Principles of Management **3 credit hour(s)**
- **AAS Written Communication Requirement 3 credit hour(s)**  
(If not previously taken)
- **Human Relations Requirement 3 credit hour(s)**

### Term 3

- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- BA 2222 - Principles of Marketing **3 credit hour(s)**
- BA 2230 - Customer Relations **3 credit hour(s)**
- BA 2240 - Business Law **3 credit hour(s)**
- ENG 1119 - Technical Communications **3 credit hour(s)**

### Term 4

- **AAS Math Requirement 3-4 credits (if not previously taken)**
- BA 2238 - Human Resource Management **3 credit hour(s)**
- BA 2281 - Ethics in Business **3 credit hour(s)**
- BA 2999 - Capstone Course **1 credit hour(s)**
  
- ECON 2200 - Macroeconomics **3 credit hour(s)**  
or
- ECON 2201 - Microeconomics **3 credit hour(s)**

**Program Approved Elective 6 credit hour(s)**

## **Associate of Applied Science in Business Administration 61-65 credit hours**

### Program Approved Electives

- **Any BA Course not specified in the above program requirements (except BA 1121)**
- **Any CIS course**
- **Any FIN course**
- **Any HT course**
- **Any PM course**
  
- ACCT 1109 - Business Math **3 credit hour(s)**  
or
- BA 1121 - Business English **3 credit hour(s)**
  
- BA 1096-1996 - Special Topics **1-3 credit hour(s)\***  
or
- BA 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

**\* Maximum 3 Special Topics credits allowed toward degree**

### Approved Math courses

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**

- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

## **Business Administration, Certificate of Completion**

### **School of Business & Information Technology (BIT)**

The Business Administration Certificate of Completion provides entry-level skills for students considering business careers. Students participate in hands-on experiences, community projects and conduct real-world research.

Students use technology and business concepts such as accounting, business law, entrepreneurship, management, marketing and professionalism, to work in teams, solve business problems and make decisions.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- ACCT 1109 - Business Math **3 credit hour(s)**  
or
- **Approved Math Course 3-4 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1121 - Business English **3 credit hour(s)**  
or
- **AAS Written Communication Requirement 3 credit(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### **Term 2**

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1105 - Introduction to Entrepreneurship **3 credit hour(s)**
- BA 2100 - Basics of Global Business **3 credit hour(s)**
- BA 2133 - Principles of Management **3 credit hour(s)**

#### **Term 3**

- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- BA 2222 - Principles of Marketing **3 credit hour(s)**
- BA 2230 - Customer Relations **3 credit hour(s)**
- BA 2240 - Business Law **3 credit hour(s)**

## **Certificate of Completion in Business Administration 39-40 credit hours**

Approved Math courses

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

## Business, Associate of Arts

### School of Business & Information Technology (BIT)

This Associate of Arts degree is designed to substantially fulfill the freshman and sophomore course requirements for admission to bachelor's degree programs in business at New Mexico colleges and universities; the degree's general education curriculum is accepted for transfer toward the general education core. [Click here for Transfer agreements.](#)

Students should communicate with the School of Business & Information Technology associate dean or program chairs as well as with admissions advisors at the college or university where they plan to complete the bachelor's degree. Courses taken with the credit/no credit option, transfer credits and non-traditional credits that have been accepted by CNM may not be accepted by the transfer institution. Many four-year institutions have minimum grade point average requirements for admission as well as a requirement that all coursework be completed with grades of C or better.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**  
or
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hours**

#### Term 2

- ECON 2200 - Macroeconomics **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s) (or higher level calculus)**
- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
or

- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**

### Term 3

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- ECON 2201 - Microeconomics **3 credit hour(s)**
- ENG 2219 - Technical Writing **3 credit hour(s)\***  
or
- ENG 2220 - Expository Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**

### Term 4

- ACCT 1210 - Introduction to Managerial Accounting **3 credit hour(s)**
- BA 2240 - Business Law **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**

## Associate of Arts in Business 60-63 credit hours

\* ENG 2219 - Technical Writing recommended for transfer to 4-year schools.

## Customer Service Representative, Certificate of Completion

### School of Business & Information Technology (BIT)

This certificate applies customer relations principles to aid students in being successful Customer Service Representatives. Students learn essential writing skills, business professionalism skills and telephone techniques.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

### Term 1

- BA 1121 - Business English **3 credit hour(s)**  
or
- ENG 1101 - College Writing **3 credit hour(s)**  
or
- ESOL 1020 - English Composition and Grammar for Specific Purposes **4 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**  
or
- ESOL 1030 - U.S. Culture and Contemporary Issues for Specific Purposes **3 credit hour(s)**
- BA 2230 - Customer Relations **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**
- **Program Approved Electives (6 credit hours)**

## Certificate of Completion, Customer Service Representative, 16-17 credit hours

### Program Approved Electives

- Any BA course (not used for this certificate)
- Any HT course
- Any SPAN course
- ESOL 1001 - Academic and Workplace Communication for Specific Purposes **3 credit hour(s)**
- ESOL 1010 - Reading and Vocabulary for Specific Purposes **3 credit hour(s)**

## Entrepreneurship, Certificate of Completion

### School of Business & Information Technology (BIT)

This certificate applies entrepreneurial principles to establishing, organizing and managing a business. Students learn basic business skills, complete a market research and feasibility assessment and develop a business plan.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**
- BA 1105 - Introduction to Entrepreneurship **3 credit hour(s)**
  
- BA 1101 - Introduction to Business **3 credit hour(s)**  
or
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**  
or
- HT 1101 - Introduction to Tourism **3 credit hour(s)**
  
- BA 1121 - Business English **3 credit hour(s)**  
or
- Written AAS Communication Requirement **3 credit hour(s)**

#### Term 2

- BA 2103 - Entrepreneurship and Business Plan Development **6 credit hour(s)**
- BA 2222 - Principles of Marketing **3 credit hour(s)**
- BA 2240 - Business Law **3 credit hour(s)**

## Certificate of Completion in Entrepreneurship 24 credit hours

### General Business, Certificate of Completion

#### School of Business & Information Technology (BIT)

The General Business Certificate of Completion is a series of courses for individuals who want to begin or expand their skills in business.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ACCT 1109 - Business Math **3 credit hour(s)**  
or
- **Approved Math Course 3-4 credit hour(s)**
  
- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Approved Program Elective 3 credit hour(s)**

## Certificate of Completion, General Business 18-19 credit hours

### Approved Math Courses

- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- MATH 1465 - Elements of Calculus II **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**

### Approved Program Electives

Any ACCT or BA Course not specified in the above program requirements

## Project Management, Certificate of Completion

### School of Business & Information Technology (BIT)

The Project Management Certificate of Completion provides opportunities for the business leaders and project managers of tomorrow to achieve a high-quality, high-value education that enables them to succeed in a competitive market. Emphasis is placed on hands-on experiences, conducting real-world research and community projects.

The curriculum includes project management fundamentals, budget and resource management, contract management, scheduling, estimating, critical path scheduling, and project oversight. Skills related to the applications of these concepts are developed through the study of computer applications, communications, team building and decision making.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

## Term 1

- BA 2240 - Business Law **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- PM 1130 - Project Management Fundamentals **4 credit hour(s)**

## Term 2

- PM 2200 - Budget and Resource Management **3 credit hour(s)**
- PM 2250 - Project Management Applications **3 credit hour(s)**

## Certificate of Completion in Project Management 16 credit hours

## Retail Management, Certificate of Completion

### School of Business & Information Technology (BIT)

The Retail Management Certificate of Completion provides opportunities for retail associates to achieve a high-quality education that will enable them to work their way into retail management.

The curriculum includes retail management fundamentals, business professionalism, human resources management and marketing. Skills related to the application of these concepts are developed through the study of computer applications, communication, team building and decision making.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ACCT 1109 - Business Math **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BA 2133 - Principles of Management **3 credit hour(s)**
- BA 2222 - Principles of Marketing **3 credit hour(s)**
- BA 2236 - Retail Management **3 credit hour(s)**
- BA 2238 - Human Resource Management **3 credit hour(s)**

## Certificate of Completion in Retail Management, 30 credits

## Career Technical

### Career Technical, Associate of Arts

#### School of Business & Information Technology (BIT)

This program allows the student pursuing a certificate or an associate of applied science degree that contains at least 30 technical



credits (exclusive of IT 1010 or its equivalent) to take the required credit hours of arts and sciences coursework to earn an associate of arts degree at CNM with the required general education component for transfer to a 4-year institution. The CNM Associate of Applied Science (AAS) degree or certificate earned by a student must be within the last 10 years, or the student will be required to demonstrate continued proficiency in the technical components.

Students are subject to admission requirements of the 4 year institution to which they plan to transfer. The acceptance of the 30 technical credit hours is subject to 4-year institutions who provide baccalaureate pathways for career technical bachelor's degrees.

Courses taken with the credit/no credit option, transfer credits and non-traditional credits accepted by CNM toward this degree may not be accepted by the transfer institution.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **Department Approval**
- MATH 1210 or MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **Credits towards technical AAS or Certificate 12-15 credit hour(s)\***

### Term 2

- **Mathematics Requirement 3-4 credit hour(s)**
- **Credits towards technical AAS or Certificate 6 credit hour(s)\***
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 3

- **Credits towards technical AAS or Certificate 6 credit hour(s)\***
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Credits towards technical AAS or Certificate 6-8 credit hour(s)\***
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 5

- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)or**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

## Associate of Arts in Career Technical 68-74 credit hours

\* Students may need to take more technical hours than noted in the above Term by Term to meet the requirements of their declared technical certificate or AAS degree. In order to receive this AA degree, student must already have received the career technical AAS or

certificate (see above if certificate or degree is more than 10 years old) at least one semester before completing this AA degree.

Student will graduate with AAS degree or certificate plus this Career Technical AA degree.

## Carpentry

### Architectural Woodworking, Certificate of Completion

#### School of Applied Technologies (AT)

The Architectural Woodworking certificate provides students with the opportunity to acquire knowledge and technical skills necessary to gain employment in cabinet and furniture making and finish carpentry.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

#### Recommended Sequence of Courses

##### Term 1

- CARP 1005 - Carpentry Blueprint Reading I **4 credit hour(s)**
- CARP 1320 - Carpentry Fundamentals **3 credit hour(s)**
- CARP 1305 - Furniture Making **3 credit hour(s)**
- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**

##### Term 2

- CARP 1692 - Advanced Furniture Making **2 credit hour(s)**
- CARP 1315 - Cabinetmaking **3 credit hour(s)**
- CARP 1892 - Spanish Colonial Furniture Making **2 credit hour(s)**

### Certificate of Completion in Architectural Woodworking 18 credit hours

## Carpentry, Certificate of Completion

#### School of Applied Technologies (AT)

The Carpentry Certificate program provides students with the opportunity to acquire knowledge and technical skills necessary to gain employment in the construction industry. Students will read and interpret construction blueprints, experience techniques using concrete for foundations, framing of building walls, erecting roofing systems, installing drywall and taping. Students focus on taping and bedding and wall finishes as well as exterior and interior door hanging, window installation and trim work. The building of a "cottage" from the ground up is a required part of the carpentry curriculum. The application of the International Residential Code is emphasized.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

#### Recommended Sequence of Courses

##### Term 1

- CARP 1005 - Carpentry Blueprint Reading I **4 credit hour(s)**
- CARP 1030 - Carpentry Theory I **3 credit hour(s)**
- CARP 1320 - Carpentry Fundamentals **3 credit hour(s)**

- CARP 1392 - Construction Lab A **5 credit hour(s)**
- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**

## Term 2

- CARP 1492 - Construction Lab B **5 credit hour(s)**
- CARP 1315 - Cabinetmaking **3 credit hour(s)**
- CARP 2005 - Carpentry Blueprint Reading II **4 credit hour(s)**
- CARP 2030 - Carpentry Theory 2 **3 credit hour(s)**

## Certificate of Completion in Carpentry 31 credit hours

## Construction Technology (AAS), Architectural Woodworking Concentration

### School of Applied Technologies (AT)

Students will have the opportunity to develop knowledge, skills and abilities in general construction with embedded instruction in architectural woodworking.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- CARP 1005 - Carpentry Blueprint Reading I **4 credit hour(s)**
- CARP 1030 - Carpentry Theory I **3 credit hour(s)**
- CARP 1320 - Carpentry Fundamentals **3 credit hour(s)**
- CARP 1392 - Construction Lab A **5 credit hour(s)**
- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**

#### Term 2

- CARP 1315 - Cabinetmaking **3 credit hour(s)**
- CARP 2005 - Carpentry Blueprint Reading II **4 credit hour(s)**
- CARP 2030 - Carpentry Theory 2 **3 credit hour(s)**
- CARP 1492 - Construction Lab B **5 credit hour(s)**

#### Term 3

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- CARP 1305 - Furniture Making **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
  
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**
  
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Term 4

- ARTH 2251 - Art of the American Southwest **3 credit hour(s)**
- CAD 1001 - Basics of CAD **1 credit hour(s)**
- CARP 1692 - Advanced Furniture Making **2 credit hour(s)**
- CARP 1892 - Spanish Colonial Furniture Making **2 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## **Associate of Applied Science in Construction Technology, Architectural Woodworking Concentration 60-61 credit hours**

### Program Approved Electives

- ARDR 1101 - Building Materials and Methods I **3 credit hour(s)**
- ARTH 2260 - Architectural History: Ancient through Modern **3 credit hour(s)**
- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- CARP 2096-2996 - Special Topics **3-7 credit hour(s)**
- RPID 1005 - 3 Dimensional CAD **3 credit hour(s)**

## **Construction Technology (AAS), General Construction Concentration**

### School of Applied Technologies (AT)

The Construction Technology program offers courses of study in carpentry that are designed to provide students with the skills necessary to gain employment in a related construction or maintenance field.

Carpentry classes meet in on- and off-campus labs designed for the practical study of residential and commercial construction, including blueprint reading, framing and the International Residential Code.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- CARP 1005 - Carpentry Blueprint Reading I **4 credit hour(s)**
- CARP 1030 - Carpentry Theory I **3 credit hour(s)**
- CARP 1320 - Carpentry Fundamentals **3 credit hour(s)**
- CARP 1392 - Construction Lab A **5 credit hour(s)**
- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**

#### **Term 2**

- CARP 1492 - Construction Lab B **5 credit hour(s)**
- CARP 1315 - Cabinetmaking **3 credit hour(s)**
- CARP 2005 - Carpentry Blueprint Reading II **4 credit hour(s)**
- CARP 2030 - Carpentry Theory 2 **3 credit hour(s)**

#### **Term 3**

- **AAS Mathematics Requirement 3-4 credit hour(s)**

- CARP 2130 - Metal Stud Framing **2 credit hour(s)**
- CM 1110 - Construction Materials and Techniques **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 4

- CARP 2230 - Concrete Forming and Rigging **2 credit hour(s)**
- CM 1205 - Computer Aided Construction Drafting/Engineering **3 credit hour(s)**
- CM 2210 - General Contractor Preparation **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**

#### Term 5

- CM 1305 - Construction Estimating **3 credit hour(s)**
- CM 1215 - Construction Equipment and Methods **3 credit hour(s)**
  
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### **Associate of Applied Science in Construction Technology, General Construction Concentration 68-69 credit hours**

## **Chemistry**

### **Chemistry, Associate of Science**

#### **School of Math, Science & Engineering (MSE)**

Students majoring in chemistry examine the composition, structure and properties of matter with an emphasis on chemical reactions and the nature of chemical bonding. Interested students can learn about career opportunities and pathways in Chemistry and related fields from the American Chemical Society.

This program is designed to meet the requirements for an Associate of Science in Chemistry from CNM and prepare a student to obtain a Bachelor of Science in Chemistry at the University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the UNM Chemistry Department. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- (MATH 1410 and MATH 1415) or MATH 1530
- Reading & Writing Proficiency 2

#### **Recommended Sequence of Courses**

##### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**

- MATH 1710 - Calculus I **4 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**

## Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
- PHYS 1792 - Calculus-Based Physics I Laboratory **1 credit hour(s)**

## Term 3

- CHEM 2710 - Organic Chemistry I **3 credit hour(s)**
- CHEM 2792 - Organic Chemistry I Laboratory **1 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**
- PHYS 1810 - Calculus-Based Physics II **4 credit hour(s)**
- PHYS 1892 - Calculus-Based Physics II Laboratory **1 credit hour(s)**

## Term 4

- CHEM 2810 - Organic Chemistry II **3 credit hour(s)**
- CHEM 2892 - Organic Chemistry II Laboratory **1 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 6 credit hour(s)**

## Associate of Science in Chemistry 65 credit hours

### Communication

#### Communication, Associate of Arts

##### School of Communication, Humanities & Social Sciences (CHSS)

This Associate of Arts degree program is intended to fulfill the freshman- and sophomore-level requirements in a Bachelor of Arts Degree at a four year institution. A variety of program-approved electives provide introductory exposure in Communication Studies. Such exposure can aid students in choosing a four-year concentration best suited to their interests and goals.

The field of Communication Studies emphasizes how people use messages to generate meaning within and across all kinds of contexts, cultures, channels and media. Upon completion of this program, successful students will be able to:

Demonstrate communication competence with diverse audiences in multiple contexts to achieve intended goals.

Critically analyze communication elements of processes and messages in various contexts and relationships.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- COMM 1101 - Introduction to Communication **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

### Term 3

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- **Laboratory Science Requirement 4 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Elective 9 credit hour(s)**

## Associate of Arts in Communication 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Communication. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

Please refer to the UNM Communication Concentrations as you select which courses to take at CNM.

### Program Approved Electives

Choose from the following list of courses:

- COMM 1110 - Mass Media and Society **3 credit hour(s)**
- COMM 2096-2996 - Special Topics **1-3 credit hour(s)**
- COMM 2223 - Introduction to Nonverbal Communication Studies **3 credit hour(s)**
- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
- COMM 2240 - Organizational Communication **3 credit hour(s)**
- COMM 2268 - Media Theories **3 credit hour(s)**
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s)**
- COMM 2280 - Gender Communication Studies **3 credit hour(s)**
- COMM 2281 - Intercultural Communication Studies **3 credit hour(s)**
- COMM 2282 - Family Communication Studies **3 credit hour(s)**
- COMM 2289 - Listening **3 credit hour(s)**

# Community Health Worker

## Community Health Worker, Certificate of Achievement

### School of Health, Wellness & Public Safety (HWPS)

CHWs are frontline public health workers and critical members of health care delivery teams. They focus on the social aspects of care that support and enhance critical clinical activities such as diagnosis, treatment, or clinical procedures that are performed by licensed health professionals like doctors and nurses. This certificate prepares students to enter the workforce as community health workers.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Program Courses

These courses are designed in a way that they can be taken in one term, two terms or three terms. HLTH 1030 has to be taken before or with CHW 1010 and CHW 1020. CHW 1010 and CHW 1020 have to be taken together and have to be taken before or with CHW 1090.

- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**
- CHW 1010 - Community Health Worker Fundamentals **2 credit hour(s)**
- CHW 1020 - Health Promotion **2 credit hour(s)**
- CHW 1090 - Community Health Worker Practicum **3 credit hour(s)**

## Certificate of Achievement in Community Health Worker 10 credit hours

# Computer Information Systems

## Computer Information Systems (AAS), Cloud Technology Concentration

### School of Business & Information Technology (BIT)

The Cloud Technology CIS Concentration is designed to introduce students to virtualization and cloud technologies and provide students with the technical skills required to install, configure and manage all facets of a “cloud” infrastructure. The concentration is designed for students who wish to acquire the skills necessary to work in the field of information technology. The courses in the Cloud Technology Concentration are designed to prepare students with the necessary skills in virtualization technologies to obtain VMware certifications as well as Microsoft certifications. It enhances students’ experiences by providing students access to:

The latest VMware technologies

High quality curriculum

Course paths that lead to certification

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**



- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Term 2

- **AAS Written Communication Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1810 - Information Storage and Management (ISM) **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s) (Except NS courses)**

## Term 3

- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2620 - Configuring Windows Server **3 credit hour(s)**
- CIS 2810 - Cloud Infrastructure I **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**

## Term 4

- CIS 2630 - Administering Windows Server **3 credit hour(s)**
- CIS 2820 - Cloud Infrastructure II **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- ENG 2219 - Technical Writing **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

## **Associate of Applied Science in Computer Information Systems, Cloud Technology Concentration 62-64 credit hours**

### Program Approved Electives

- BA 1152 - Quality Tools **1 credit hour(s)**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 1096-1996 - Special Topics **1-3 credit hour(s)\***
- CIS 2096-2996 - Special Topics **1-3 credit hour(s)\***
- CIS 1250 - Python Programming I **3 credit hour(s)**
- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1425 - Network Topologies/Cisco Academy Semester 1 **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

\* Maximum 3 Special Topic credit hours allowed toward degree

# Computer Information Systems (AAS), Computer Programming Concentration

## School of Business & Information Technology (BIT)

The Computer Programming Concentration provides students with a solid foundation in computer programming. Students develop critical thinking skills by learning to design code to model real life situations using at least three modern computer languages - C++, C#, Python and Java. Advanced classes such as Android Development, OpenGL, and ASP.Net provide cutting edge learning opportunities.

In addition, courses in SQL and database technology make the programming languages more versatile by facilitating interaction with data bases. Students learn object-oriented design, Graphic User Interface construction and web applications and web services.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- **AAS Written Communication Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2275 - C++ Programming II (Object-Oriented Programming) **3 credit hour(s)**
- CIS 2520 - Introduction to SQL (Structured Query Language) **3 credit hour(s)**

### Term 3

- CIS 1280 - .Net I/C# **3 credit hour(s)**
- CIS 2235 - Java Programming I **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- ENG 2219 - Technical Writing **3 credit hour(s)**
  
- **Human Relations Requirement 3 credit hour(s)**

### Term 4

- CIS 2237 - Android App Dev with Java **3 credit hour(s)**
- CIS 2284 - .NET II/C# **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s) (Except NS courses)**
- **Program Approved Elective 6 credit hour(s)**

## Associate of Applied Science in Computer Information Systems, Computer

## Programming Concentration 62-64 credit hours

### Program Approved Electives

- CIS 1096-1996 - Special Topics **1-3 credit hour(s)\***  
**or**
- CIS 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- CIS 1250 - Python Programming I **3 credit hour(s)**
- CIS 1330 - Photoshop **3 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1730 - JavaScript Web Programming **3 credit hour(s)**
- CIS 1750 - PHP Web Programming **3 credit hour(s)**
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- CIS 2270 - Principles of Graphics Programming **3 credit hour(s)**
- CIS 2277 - C++ Programming III (Advanced OOP) **3 credit hour(s)**
- CIS 2355 - Adobe Illustrator **3 credit hour(s)**
- CIS 2521 - Database Programming with PL/SQL **3 credit hour(s)**
- CIS 2522 - APEX - Build Web Applications **3 credit hour(s)**

\* Maximum 3 Special Topic credit hours allowed toward degree

## Computer Information Systems (AAS), Computer Support Specialist Concentration

### School of Business & Information Technology (BIT)

The Computer Information Systems, Computer Support Specialist AAS degree, combines a variety of CIS courses offering the concepts and skills so that graduates may enter into IT support positions. It is designed to prepare students for work in the growing business market of microcomputer applications, Internet, security, programming, networking, and troubleshooting.

See Recommended Sequence of Courses

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**

#### Term 2

- **AAS Written Communication Requirement 3 credit hour(s)**
- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**

### Term 3

- CIS 1680 - Linux Essentials **3 credit hour(s)**
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- ENG 2219 - Technical Writing **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s) (Except NS course)**
- **Mathematics Requirement 3-4 credit hour(s)**

### Term 4

- CIS 1173 - Excel Complete **3 credit hour(s)**
- CIS 2670 - Computer Security+ **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- PM 1130 - Project Management Fundamentals **4 credit hour(s)**
- **Program Approved Elective 3 credits hour(s)**

## **Associate of Applied Science in Computer Information Systems, Computer Support Specialist Concentration 63-65 credit hours**

### Program Approved Electives

- CIS 1183 - Access Complete **3 credit hour(s)**
- CIS 1250 - Python Programming I **3 credit hour(s)**
- CIS 1713 - Web Publishing **3 credit hour(s)**
- CIS 1810 - Information Storage and Management (ISM) **3 credit hour(s)**
- CIS 1858 - Computer and Network Ethics **3 credit hour(s)**
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- CIS 2235 - Java Programming I **3 credit hour(s)**

## **Computer Information Systems (AAS), Digital Media Concentration**

### **School of Business & Information Technology (BIT)**

Digital Media is an Associates of Applied Science degree program combining technology and design. The program offers training in areas such as graphic design/2D modeling, desktop/electronic publishing, web design, and audio and video editing. Digital Media offers individuals the education and tools necessary to bring classic media like text, graphics, photos and research into the digital arena.

The Digital Media program is designed for students who want to learn about graphic design for web and print output. Students learn through hands-on experience the current software used in the graphics industry today. Students also learn how to communicate visually and apply that to various hands-on projects.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1101 - Introduction to Business **3 credit hour(s)**  
or
- BA 1105 - Introduction to Entrepreneurship **3 credit hour(s)**
  
- CIS 1310 - Introduction to Digital Media **3 credit hour(s)**
- CIS 1325 - Visual Communication **3 credit hour(s)**
- CIS 1713 - Web Publishing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- ARTS 1106 - Drawing I **3 credit hour(s)**  
or
- ARTS 1121 - Two-Dimensional Design **3 credit hour(s)**
  
- BA 1121 - Business English **3 credit hour(s)**
- CIS 1330 - Photoshop **3 credit hour(s)**
- CIS 2360 - Digital Video Editing **3 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**

### Term 3

- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 2310 - Page Layout and Design **3 credit hour(s)**
- CIS 2351 - Mobile Design **3 credit hour(s)**
- CIS 2355 - Adobe Illustrator **3 credit hour(s)**
- CIS 2381 - Advanced Photoshop **3 credit hour(s)**
- AAS Written Communication Requirement **3 credit hour(s)**

### Term 4

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- CIS 2336 - Post Production Special Effects **3 credit hour(s)**
- CIS 2375 - Digital Design Studio **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
- **Program Approved Elective 2-3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

**Associate of Applied Science in Computer Information Systems, Digital Media Concentration 63-65 credit hours**

## Program Approved Electives

- CIS 1096-1996 - Special Topics **1-3 credit hour(s)\***  
or
- CIS 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- CIS 2340 - Dreamweaver **2 credit hour(s)**
- CIS 2341 - Web Presence **2 credit hour(s)**
- CIS 2760 - Web Metrics **3 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

\* Maximum 3 Special Topics credits allowed

## Computer Information Systems (AAS), Network Administration Concentration

### School of Business & Information Technology (BIT)

The CIS Network Administration Concentration prepares students with the technical knowledge and skills to excel in administering complex IP networks, which are increasingly integral to the functioning of any large business, from manufacturing to finance to food service to science and government services.

Through a partnership with the Cisco Networking Academy we offer courses which provide interactive learning tools and activities to help students develop practical experience and 21st century career skills such as problem solving, collaboration, and critical thinking.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- CIS 1425 - Network Topologies/Cisco Academy Semester 1 **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- **AAS Written Communication Requirement 3 credit hour(s)**
- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2420 - Basic Router Config./Cisco Academy Semester 2 **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s) (Except NS courses)**

#### Term 3

- **Mathematics Requirement 3-4 credit hour(s)**

- CIS 2423 - Local Area Network Management/Cisco Academy Semester 3 **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- ENG 1119 - Technical Communications **3 credit hour(s)**  
**or**
- ENG 2219 - Technical Writing **3 credit hour(s)**
- Program Approved Elective **3 credit hour(s)**

#### Term 4

- CIS 2425 - Wide Area Network (WAN) Management/Cisco Academy Semester 4 **3 credit hour(s)**
- CIS 2427 - Troubleshooting Networks **3 credit hour(s)**
- CIS 2450 - Fundamentals of Network Security **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

## Associate of Applied Science in Computer Information Systems, Network Administration Concentration **62-64 credit hours**

#### Program Approved Electives

- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 1096-1996 - Special Topics **1-3 credit hour(s)\***
- CIS 2096-2996 - Special Topics **1-3 credit hour(s)\***
- CIS 1250 - Python Programming I **3 credit hour(s)**
- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**
- CIS 1810 - Information Storage and Management (ISM) **3 credit hour(s)**
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

\* **Maximum 3 Special Topics credits allowed**

## Computer Information Systems (AAS), Systems Administration Concentration

#### School of Business & Information Technology (BIT)

Systems Administration focuses on design, implementation, management and troubleshooting computer systems in a business environment. The required courses in the program cover all objectives needed to prepare for the Microsoft Certified Solutions Associate (MCSA) exams. Areas covered are Enterprise/Server Support and Client Support in the Windows environment.

Students will receive instruction and hands-on training on subjects that include; installing operating systems, managing performance, implementing security, disaster recovery, directory services, virtualization of servers and desktops, troubleshooting hardware and software, and many more advanced computing technologies.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **AAS Written Communication Requirement 3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- **Mathematics Requirement 3-4 credit hour(s)**
- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- CIS 2620 - Configuring Windows Server **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s)** (except NS courses)

### Term 3

- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2630 - Administering Windows Server **3 credit hour(s)**
- CIS 2634 - Managing and Maintaining Windows Client **3 credit hour(s)**
- CIS 2650 - Advanced Windows Server **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**

### Term 4

- CIS 2670 - Computer Security+ **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
  
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- ENG 2219 - Technical Writing **3 credit hour(s)**
  
- **Human Relations Requirement 3 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**

## Associate of Applied Science in Computer Information Systems, Systems Administration Concentration 62-64 credit hours

### Program Approved Electives

- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
  
- CIS 1096-1996 - Special Topics **1-3 credit hour(s)\***  
or
- CIS 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- CIS 1173 - Excel Complete **3 credit hour(s)**
- CIS 1250 - Python Programming I **3 credit hour(s)**
- CIS 1275 - C++ Programming I **3 credit hour(s)**



- CIS 1280 - .Net I/C# **3 credit hour(s)**
- CIS 1425 - Network Topologies/Cisco Academy Semester 1 **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**
- CIS 1810 - Information Storage and Management (ISM) **3 credit hour(s)**
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

\* **Maximum 3 Special Topics credits allowed**

## **Computer Information Systems (AAS), Web Programming Concentration**

### **School of Business & Information Technology (BIT)**

Web Programming students acquire skills for entry level website designers and developers to create and publish industry standard compliant web content with strong hands-on knowledge of browser-side and server-side technology.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- BA 1101 - Introduction to Business **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### **Term2**

- **AAS Written Communication 3 credit hour(s) 3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- CIS 1713 - Web Publishing **3 credit hour(s)**
- CIS 1730 - JavaScript Web Programming **3 credit hour(s)**
- CIS 1750 - PHP Web Programming **3 credit hour(s)**

#### **Term 3**

- **Mathematics Requirement 3-4 credit hour(s)**
- CIS 1280 - .Net I/C# **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- ENG 2219 - Technical Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s) (Except NS courses)**

## Term 4

- CIS 2284 - .NET II/C# **3 credit hour(s)**
- CIS 2999 - Capstone Course **1 credit hour(s)**
- CIS 2763 - Web Programming Framework **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## **Associate of Applied Science in Computer Information Systems, Web Programming Concentration 62-64 credit hours**

### Program Approved Electives

- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
  
- CIS 1096-1996 - Special Topics **1-3 credit hour(s)\***  
**or**
- CIS 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- CIS 2095 - Cooperative Education **3 credit hour(s)**
- CIS 2097 - Independent Study **1-6 credit hour(s)**
- CIS 2098 - Internship **3 credit hour(s)**
- CIS 1250 - Python Programming I **3 credit hour(s)**
- CIS 2235 - Java Programming I **3 credit hour(s)**
- CIS 2275 - C++ Programming II (Object-Oriented Programming) **3 credit hour(s)**
- CIS 2520 - Introduction to SQL (Structured Query Language) **3 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

**\* Maximum 3 Special Topic credits allowed**

## **Computer Information Systems (Certificate of Completion), Cloud Technology**

### **School of Business & Information Technology (BIT)**

This CIS Cloud Technology certificate is a subset of the core AAS degree technical courses. These core courses are designed to introduce students to virtualization and cloud technologies and provide students with the technical skills required to install, configure and manage all facets of a “cloud” infrastructure. The certificate is built for students who wish to acquire the skills necessary to work in the field of information technology and obtain industry certifications.

Since this CIS Cloud Technology certificate is a subset of the core AAS degree technical courses, it will enable CNM students who have completed the CIS AAS degree in a different concentration to complete the remaining technical courses in this area and earn this CIS certificate. Additionally, this cert is ideal for students coming to CNM with AA/AAS/BS degrees who wish to do the core technical course work for this area.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### Term 1

- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**

- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Term 2

- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 1810 - Information Storage and Management (ISM) **3 credit hour(s)**

## Term 3

- CIS 2620 - Configuring Windows Server **3 credit hour(s)**
- CIS 2810 - Cloud Infrastructure I **3 credit hour(s)**

## Term 4

- CIS 2630 - Administering Windows Server **3 credit hour(s)**
- CIS 2820 - Cloud Infrastructure II **3 credit hour(s)**

# Certificate of Completion in Computer Information Systems, Cloud Technology, 30 credit hours

## Computer Information Systems (Certificate of Completion), Computer Programming

### School of Business & Information Technology (BIT)

This CIS Computer Programming certificate is a subset of the core AAS degree technical courses. These core courses provide students with a solid foundation in computer programming. Students develop critical thinking skills by learning to design code to model real life situations using three computer languages - C++, C# and Java. Advanced classes include Android Development and ASP.Net.

In addition, courses in SQL and database design make the programming languages more versatile by facilitating interaction with data bases. Students learn object-oriented design, Graphic User Interface construction and web applications and web services.

Since this CIS Computer Programming certificate is a subset of the core AAS degree technical courses, it will enable CNM students who have completed the CIS AAS degree in a different concentration to complete the remaining technical courses in this area and earn this CIS certificate. Additionally, this cert is ideal for students coming to CNM with AA/AAS/BS degrees who wish to do the core technical course work for this area.

See Recommended Sequence of Courses

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- CIS 1280 - .Net I/C# **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2235 - Java Programming I **3 credit hour(s)**

- CIS 2275 - C++ Programming II (Object-Oriented Programming) **3 credit hour(s)**

### Term 3

- CIS 2237 - Android App Dev with Java **3 credit hour(s)**
- CIS 2284 - .NET II/C# **3 credit hour(s)**
- CIS 2520 - Introduction to SQL (Structured Query Language) **3 credit hour(s)**

## **Certificate of Completion in Computer Information Systems, Computer Programming, 30 credit hours**

### **Computer Information Systems (Certificate of Completion), Computer Support Specialist**

#### **School of Business & Information Technology (BIT)**

This CIS Computer Support Specialist certificate is a subset of the core AAS degree technical courses. These core courses combine a variety of CIS courses offering the concepts and skills so that graduates may enter into IT support positions. It is designed to prepare students for work in the growing business market of microcomputer applications, Internet, security, programming, networking, and troubleshooting.

Since this CIS Computer Support Specialist certificate is a subset of the core AAS degree technical courses, it will enable CNM students who have completed the CIS AAS degree in a different concentration to complete the remaining technical courses in this area and earn this CIS certificate. Additionally, this cert is ideal for students coming to CNM with AA/AAS/BS degrees who wish to do the core technical course work for this area.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### Term 1

- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**

#### Term 3

- CIS 1173 - Excel Complete **3 credit hour(s)**
- CIS 2670 - Computer Security+ **3 credit hour(s)**
- PM 1130 - Project Management Fundamentals **4 credit hour(s)**

## **Certificate of Completion in Computer Information Systems, Computer Support Specialist, 34 credit hours**

# Computer Information Systems (Certificate of Completion), Network Administration

## School of Business & Information Technology (BIT)

This CIS Network Admin certificate is a subset of the core AAS degree technical courses. These core courses prepare students with the technical knowledge and skills to excel in administering complex IP networks, which are increasingly integral to the functioning of any large business, from manufacturing to finance to food service to science and government services.

Through a partnership with the Cisco Networking Academy we offer courses which provide interactive learning tools and activities to help students develop practical experience and 21st century career skills such as problem solving, collaboration, and critical thinking.

Since this CIS Network Administration certificate is a subset of the core AAS degree technical courses, it will enable CNM students who have completed the CIS AAS degree in a different concentration to complete the remaining technical courses in this area and earn a CIS certificate. Additionally, this cert is ideal for students coming to CNM with AA/AAS/BS degrees who wish to do the core technical course work for this area.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- CIS 1425 - Network Topologies/Cisco Academy Semester 1 **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2420 - Basic Router Config./Cisco Academy Semester 2 **3 credit hour(s)**

### Term 3

- CIS 2423 - Local Area Network Management/Cisco Academy Semester 3 **3 credit hour(s)**

### Term 4

- CIS 2425 - Wide Area Network (WAN) Management/Cisco Academy Semester 4 **3 credit hour(s)**
- CIS 2427 - Troubleshooting Networks **3 credit hour(s)**
- CIS 2450 - Fundamentals of Network Security **3 credit hour(s)**

## Certificate of Completion in Computer Information Systems, Network Administration, 33 credit hours

# Computer Information Systems (Certificate of Completion), Systems Administration

## School of Business & Information Technology (BIT)

This CIS Systems Admin certificate is a subset of the core AAS degree technical courses. These technical courses focus on design, implementation, management and troubleshooting computer systems in a business environment. The required courses in the program cover all objectives needed to prepare for the certification exams. Areas covered are Enterprise/Server Support and Client Support in the Windows environment.

Students will receive instruction and hands-on training on subjects that include; installing operating systems, managing performance, implementing security, disaster recovery, directory services, virtualization of servers and desktops, troubleshooting hardware and software, and many more advanced computing technologies.

Since this CIS Systems Administration certificate is a subset of the core AAS degree technical courses, it will enable CNM students who have completed the CIS AAS degree in a different concentration to complete the remaining technical courses in this area and earn this CIS certificate. Additionally, this cert is ideal for students coming to CNM with AA/AAS/BS degrees who wish to do the core technical course work for this area.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 2620 - Configuring Windows Server **3 credit hour(s)**

### Term 3

- CIS 2630 - Administering Windows Server **3 credit hour(s)**
- CIS 2634 - Managing and Maintaining Windows Client **3 credit hour(s)**
- CIS 2650 - Advanced Windows Server **3 credit hour(s)**
- CIS 2670 - Computer Security+ **3 credit hour(s)**

## Certificate of Completion in Computer Information Systems, Systems Administration, 30 credit hours

## Computer Information Systems (Certificate of Completion), Web Programming

### School of Business & Information Technology (BIT)

This CIS Web Programming certificate is a subset of the core AAS degree technical courses. These technical courses allow students to acquire skills for entry level website designers and developers to create and publish industry standard compliant web content with strong hands-on knowledge of browser-side and server-side technology.

Since this CIS Web Programming certificate is a subset of the core AAS degree technical courses, it will enable CNM students who have completed the CIS AAS degree in a different concentration to complete the remaining technical courses in this area and earn a CIS certificate. Additionally, this cert is ideal for students coming to CNM with AA/AAS/BS degrees who wish to do the core technical course work for this area.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

## Term 1

- CIS 1275 - C++ Programming I **3 credit hour(s)**
- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- CIS 1715 - Overview of Web Technologies **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Term 2

- CIS 1280 - .Net I/C# **3 credit hour(s)**
- CIS 1680 - Linux Essentials **3 credit hour(s)**
- CIS 1713 - Web Publishing **3 credit hour(s)**
- CIS 1730 - JavaScript Web Programming **3 credit hour(s)**

## Term 3

- CIS 1750 - PHP Web Programming **3 credit hour(s)**
- CIS 2284 - .NET II/C# **3 credit hour(s)**
- CIS 2763 - Web Programming Framework **3 credit hour(s)**

## **Certificate of Completion in Computer Information Systems, Web Programming, 33 credit hours**

### **Computer Information Systems (Post Degree Certificate of Achievement), CISCO Concentration**

#### **School of Business & Information Technology (BIT)**

This certificate of achievement is for individuals who have a technical degree such as Computer Engineering, Network Engineering, Computer Programming or who are working as Network Specialists and wish to take courses and earn the CISCO Certified Network Associate (CCNA) credential. The certificate requires the student take the four CISCO Academy courses.

Note: In order to enroll in this program, the student needs to have an Associate degree or higher in a technical field such as Computer Networking, Systems Engineering, Information Systems. Department approval required.

Students are expected to have a working knowledge of network theory and implementation.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **Technical Degree**

#### **Recommended Sequence of Courses**

##### **Program Requirements**

- CIS 1425 - Network Topologies/Cisco Academy Semester 1 **3 credit hour(s)**
- CIS 2420 - Basic Router Config./Cisco Academy Semester 2 **3 credit hour(s)**
- CIS 2423 - Local Area Network Management/Cisco Academy Semester 3 **3 credit hour(s)**
- CIS 2425 - Wide Area Network (WAN) Management/Cisco Academy Semester 4 **3 credit hour(s)**

## **Post Degree Certificate of Achievement in Computer Information Systems, CISCO Concentration 12 credit hours**

### **Computer Information Systems (Post Degree Certificate of Completion), Cyber Security Concentration**

## School of Business & Information Technology (BIT)

The Cyber Security Concentration prepares students for employment in a variety of in-demand positions related to information security. Upon successful completion of this program you will have learned the skills employers are seeking in information security positions. Gain valuable knowledge and skills while preparing for industry recognized certifications.

In order to enroll in this program, the student needs to have an Associate degree or higher in a technical field such as Computer Networking, Systems Engineering, Information Systems. Department approval required. Students with prior experience are encouraged to meet with the BIT Academic Advisor for placement in the program.

## Program Proficiencies and/or Prerequisites

In order to enroll in this program, the student must have:

- **Associate degree or higher in a technical field, or**
- **Department approval**

## Recommended Sequence of Courses

### Term 1

- CIS 1858 - Computer and Network Ethics **3 credit hour(s)**
- CIS 2670 - Computer Security+ **3 credit hour(s)**

### Term 2

- CIS 2853 - Network Defense Basics **3 credit hour(s)**
- CIS 2860 - Digital Forensics **3 credit hour(s)**

### Term 3

- CIS 2857 - Ethical Hacking **3 credit hour(s)**
- CIS 2899 - Cyber Security Capstone **1 credit hour(s)**

## Post Degree Certificate of Completion in Computer Information Systems, Cyber Security Concentration 16 credit hours

# Computer Science

## Computer Science, Associate of Science

### School of Business & Information Technology (BIT)

Students majoring in Computer Science examine the theory of computation, the design of algorithms and how to apply these principles to problem-solving.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- (MATH 1410 and MATH 1415) or MATH 1530
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hours**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Program Approved Laboratory Science Requirement 4-5 credit hour(s)\***



- **Social/Behavioral Sciences Requirement 3 credit hour(s)**

## Term 2

- CSCI 1152 - Introduction to Programming for Computer Science Majors **4 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Program Approved Laboratory Science Requirement 4-5 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**

## Term 3

- CSCI 2251 - Intermediate Computer Programming **4 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Program Approved Laboratory Science Requirement 3-4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**

## Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**
- CSCI 2201 - Mathematical Foundations of Computer Science **4 credit hour(s)**
- **Fine Arts Requirement 3 credit hours)**
- **Program Approved Laboratory Science Requirement 3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Science, Computer Science 61-65 credit hours

### Program Approved Laboratory Science Courses

**One of the following three sequences of laboratory science courses must be included in order to satisfy the lab science requirement:**

1) BIO 1510/BIO 1592 and BIO 1610/BIO 1692 2) CHEM 1710/CHEM 1792 and CHEM 1810/CHEM 1892 3) PHYS 1710/PHYS 1792 and PHYS 1810/PHYS 1892: **This course sequence is strongly recommended.**

In addition to one of the sequences specified above, the following lab science courses may be used to complete the 14 - 18 credit lab science requirement:

EPS 1101/EPS 1192 BIO 1110/BIO 1192 (ENVS 101/102L is the UNM equivalent) however, students may not use EPS 1101/EPS 1192 and BIO 1110/BIO 1192 together to complete the lab science requirement.

The lab science courses must be completed with lab in one discipline; remaining two science courses do not require the lab portion.

## Construction Management Technology

### Construction Estimating and Scheduling, Certificate of Completion

#### School of Applied Technologies (AT)

Construction estimating and scheduling are critical skills for construction managers. This certificate, which falls under the Construction Management program, provides a firm base in construction fundamentals, scheduling and estimating, and introduces students to the wider field of construction management in a 3-term certificate. All courses are also included in the Construction Management A.A.S. degree, providing a certification opportunity for students while they complete their degree studies.

In this program students acquire the basic knowledge and skills for construction estimating and scheduling. An emphasis is placed in developing the skills necessary to use state of the art, industry standard technology and software. Several of the program courses are transferable to the University of New Mexico Construction Management Bachelor of Science degree program.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- IT 1010

- Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CM 1105 - Construction Detailing **3 credit hour(s)\*\***
- CM 1110 - Construction Materials and Techniques **3 credit hour(s)\*\***
- CM 1205 - Computer Aided Construction Drafting/Engineering **3 credit hour(s)\*\***
- CM 1115 - Commercial Construction Theory **3 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**

### Term 2

- CM 1210 - Mechanical Electrical Systems and Construction **3 credit hour(s)\*\***
- CM 1305 - Construction Estimating **3 credit hour(s)\*\***
- CM 1220 - Introduction to Construction Project Management **3 credit hour(s)**

### Term 3

- CM 2105 - Construction Scheduling **3 credit hour(s)\*\***
- CM 2115 - Computerized Estimating Techniques **3 credit hour(s)\*\***

## Certificate of Completion in Construction Estimating and Scheduling 30 credit hours

In accordance with a transfer agreement, courses marked with \*\* may be applied toward the Bachelor of Science degree in Construction Management at the University of New Mexico.

## Construction Management Technology, Associate of Applied Science

### School of Applied Technologies (AT)

Construction Management insures the timely, safe and cost-efficient execution of building projects. Construction managers use advanced software and an in-depth understanding of the construction process and related materials to optimize project efficiency and work in an office as well as outside, on the jobsite.

CNM Construction Management A.A.S. students acquire skills related to the range of activities that those in this field must master, from basic accounting principles, to fundamentals of construction, to field surveying. Designed to be completed in 5 terms, the CM A.A.S. degree also incorporates a core of approved general education courses, making it appropriate for transfer to a 4-year program.

CNM Construction Management accredited by American Council for Construction Education (ACCE)

See Recommended Sequence of Courses

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s) (Except MATH 1210)**
- CM 1105 - Construction Detailing **3 credit hour(s)\***
- CM 1110 - Construction Materials and Techniques **3 credit hour(s)\***
- CM 1115 - Commercial Construction Theory **3 credit hour(s)**

ENG 1101 - College Writing **3 credit hour(s)\***

## Term 2

- CM 1205 - Computer Aided Construction Drafting/Engineering **3 credit hour(s)\***
- CM 1210 - Mechanical Electrical Systems and Construction **3 credit hour(s)\***
- CM 1215 - Construction Equipment and Methods **3 credit hour(s)**
- CM 1220 - Introduction to Construction Project Management **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Term 3

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- CM 1305 - Construction Estimating **3 credit hour(s)\***
  
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- **Approved Communications Elective 3 credit hour(s)**
  
- OSH 2010 - Occupational Safety for Construction - 30 Hour **3 credit hour(s)**
- PHYS 1010 - Introduction to Physics **3 credit hour(s)(or higher)**

## Term 4

- CM 2105 - Construction Scheduling **3 credit hour(s)\***
- CM 2115 - Computerized Estimating Techniques **3 credit hour(s)\***
- CM 2120 - Statics **3 credit hour(s)**
- CM 2205 - Construction Layout and Land Surveying **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**

## Term 5

- BA 2240 - Business Law **3 credit hour(s)**
  
- **Humanities Elective 3 credit hour(s)**  
or
- **Social/Behavioral Science Elective 3 credit hour(s)**
  
- CM 2210 - General Contractor Preparation **3 credit hour(s)**
- **Technical Approved Elective 3 credit hour(s)**

## **Associates of Applied Science in Construction Management Technologies 72-73 credit hours**

\* In accordance with a transfer agreement, courses may be applied toward the Bachelor of Science degree in Construction Management at the University of New Mexico.

### Program Approved Electives

#### Communications Approved Electives

- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
- COMM 2240 - Organizational Communication **3 credit hour(s)**

## Technical Approved Electives

- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- CM 2220 - Computerized Project Management and Scheduling **3 credit hour(s)\***
- CM 2997 - Independent Study **1-7 credit hour(s)**
- CM 2998 - Internship **3 credit hour(s)**
- PM 2200 - Budget and Resource Management **3 credit hour(s)**

## Sustainable Building Technology, Certificate of Completion

### School of Applied Technologies (AT)

The practice of green or sustainable construction focuses on producing buildings and other facilities that reduce environmental impacts and use resources more efficiently. Many of these benefits are achieved through energy and water conservation and through the use of recycled or renewable materials. This certificate is designed to introduce concepts of sustainable construction and construction management through theory and lab courses. Students completing the certificate may continue on to the Construction Management A.A.S. degree, to which many of the courses articulate. In addition, professionals in the Construction industry may also use this certificate to enhance their skill set.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3
- Reading & Writing Proficiency 2

### Term 1

- CM 1233 - Sustainable Building Practices **3 credit hour(s)**
- CM 1105 - Construction Detailing **3 credit hour(s)**
- CM 1110 - Construction Materials and Techniques **3 credit hour(s)**
- CM 1210 - Mechanical Electrical Systems and Construction **3 credit hour(s)**

### Term 2

- CM 1205 - Computer Aided Construction Drafting/Engineering **3 credit hour(s)**
- Program Approved Electives 1-7 credit hours
- CM 2230 - Building Energy Analysis **3 credit hour(s)**

### Program Approved Sustainability Electives

- CM 2096-2996 - Special Topics **1-7 credit hour(s)**
- CRP 1181 - Introduction to Environmental Problems **3 credit hour(s)**
- SUST 1134 - Introduction to Sustainability: Environment, Society, and Economy **3 credit hour(s)**

## Certificate of Completion in Sustainable Building Technology, 19 - 25 credit hours

## Cosmetology

### Cosmetology, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

Students will study basic cosmetology skills designed to meet standards established by the New Mexico State Board of Barbers and Cosmetologists. The degree requires 62-63 credit hours in cosmetology and general education, which exceeds the minimum of 1,600 clock hours required by State Board. The Pivot Point International-based curriculum covers theory and lab in the following State Board requirements: sterilization, bacteriology, shampoo, rinses, scalp treatments, chemical rearranging (perms and relaxers), hairstyling, hair coloring and lightening, hair cutting, facials, pedicures, salon business and retail sales. Students can earn licensure by the New Mexico Board of Barbers and Cosmetologists after passing the state exam. This program's first term courses are offered fall term and spring

term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Required Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
  
- **Humanities/Fine Arts 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**
  
- **Human Relations Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

This program's first term courses are offered fall term and spring term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

- COS 1010 - Orientation **2 credit hour(s)**
- COS 1020 - Cosmetology Fundamentals I **6 credit hour(s)**
- COS 1030 - Cosmetology Fundamentals II **6 credit hour(s)**

### Term 3

- COS 1080 - Salon Theory I **2 credit hour(s)**
- COS 1092 - Hair Service Lab II **6 credit hour(s)**
- COS 1193 - Skin/Nails Service **3 credit hour(s)**

### Term 4

- COS 2080 - Salon Theory II **1 credit hour(s)**
- COS 2093 - Hair Service III **5 credit hour(s)**
- COS 2492 - Facials/Manicuring/Pedicuring Lab III **4 credit hour(s)**

### Term 5

- COS 2505 - Salon Operation Theory **2 credit hour(s)**
- COS 2510 - Advanced Salon Theory **2 credit hour(s)**
- COS 2511 - State Laws/Regulations **1 credit hour(s)**
- COS 2592 - Salon Operation Lab (Externship) **3 credit hour(s)**
- COS 2692 - Advanced Salon Lab **4 credit hour(s)**

## Associate of Applied Science in Cosmetology 62-63 credit hours

## Criminal Justice

# Criminal Justice, Associate of Applied Science

## School of Health, Wellness & Public Safety (HWPS)

Careers in the Criminal Justice field continue to expand in both public and private sectors. Careers include Law Enforcement, Adult Corrections, Juvenile Correction, Adult and Juvenile Probation and Parole, Private Investigations, and Security. Security careers include private and personal security, commercial security, industrial security, public security, retail, information and Homeland Security. The U.S. Department of Labor projects continued job growth in all of these fields. The Associate of Applied Science degree in Criminal Justice provides the education needed for entry level employment in the career field. It may also help the student achieve promotion after gaining employment.

The program offers a varied schedule of courses to meet the students' needs, including traditional classes at varied times at the different campuses, on-line courses, an investigations lab, a computer lab with interactive learning programs, and intern programs with local agencies. This program may begin with dual enrollment for high school students via the Pathways programs. Students are instructed by faculty who have vast experience in all aspects of criminal justice and are readily available to help students. Students may tailor their studies to concentrate in the area of their interest. The program also prepares the students in critical thinking and work-place skills employers demand. The program will also provide students with a sense of professionalism and community service necessary for a career in Criminal Justice.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CJ 1001 - Introduction to Criminal Justice **3 credit hour(s)**
- CJ 1002 - Criminal Law **3 credit hour(s)**
- CJ 1007 - Criminal Procedure **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- CJ 1502 - Juvenile Law and Procedure **3 credit hour(s)**
  
- CJ 1509 - Introduction to Security Services **3 credit hour(s)**  
**or**
- CJ 1580 - Patrol Practices **3 credit hour(s)**
  
- CJ 1518 - Report Writing **3 credit hour(s)**
  
- FITT 1792 - Physical Fitness I **1 credit hour(s)**  
**or**
- FITT 2093 - Extreme Conditioning **1 credit hour(s)**

### Term 3

- CJ 2511 - Correctional Services **3 credit hour(s)**
- CJ 2515 - Criminal Investigation **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
- SOC 2215 - Criminology **3 credit hour(s)**

#### Term 4

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- CJ 2505 - Community-Oriented Policing **3 credit hour(s)**
- CJ 2692 - Criminal Investigation Laboratory **1 credit hour(s)**
- CJ 2998 - Criminal Justice Capstone **3 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**

### **Associates of Applied Science in Criminal Justice 62-63 credit hours**

\* MATH 1315 recommended if planning on transferring to a 4-year degree program.

#### Program Approved Electives

- CJ 2005 - Probation and Parole **3 credit hour(s)**
- CJ 2006 - Rules of Criminal Evidence **3 credit hour(s)**
- CJ 2007 - White Collar Crimes **3 credit hour(s)**
- CJ 2008 - Organized Crime and Terrorism **3 credit hour(s)**
- CJ 2009 - Management for Criminal Justice Professionals **3 credit hour(s)**
- CJ 2011 - Public Policies and Strategies **3 credit hour(s)**
- CJ 2096-2996 - Special Topics **1-6 credit hour(s)**
- CJ 2512 - Juvenile Corrections **3 credit hour(s)**
- CJ 2513 - Institutional Corrections **3 credit hour(s)**
- CJ 2514 - Introduction to Homeland Security **3 credit hour(s)**
- CJ 2516 - Transportation and Border Security **3 credit hour(s)**
- CJ 2517 - Intelligence Analysis and Security Management **3 credit hour(s)**
- CJ 2695 - Cooperative Education **3 credit hour(s)**
- CJ 2697 - Independent Study **0 credit hour(s)**
- CJ 2698 - Internship **3 credit hour(s)**

## **Criminology**

### **Criminology, Associate of Arts**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

Criminology is the social-scientific study of crime, including the measurement, etiology, consequences, prevention, control, and treatment of crime and delinquency. Courses in the program help students develop a structural perspective which in turn lets them understand crime, law, and society more broadly and critically. The criminology major prepares students for further academic study and/or employment in the fields of parole and probation careers, criminal justice employment as well as law school. Information about career options for criminology majors is offered by the American Sociological Association and the American Society of Criminology.

Closely aligned with the sociology program, this criminology program is designed to meet the requirements for an Associate of Arts in Criminology from CNM. It will also prepare a student to obtain a Bachelor of Arts in Criminology or Sociology from a 4-year college or university. Students will develop critical thinking skills through comparison of major theories in the field, analysis of crime trends, and evaluation of the criminal justice system.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Course Sequence

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)\***
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
  - **Humanities Requirement 3 credit hour(s)**
  - **Laboratory Science Requirement 4 credit hour(s)**
  - **Modern Language Elective 4 credit hour(s)\* \***
- 
- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**  
or
  - SOC 2215 - Criminology **3 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
  - COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- 
- **Fine Arts Requirement 3 credit hour(s)**
  - **General Elective 3 credit hour(s)**
  - **Laboratory Science Requirement 4 credit hour(s)**
- 
- SOC 2211 - Social Problems **3 credit hour(s)**  
or
  - SOC 2213 - Deviant Behavior **3 credit hour(s)**

### Term 4

- **Elective 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- SOC 2999 - Sociology Capstone **3 credit hour(s)**

## Associate of Arts in Criminology 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Criminology. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\* **MATH 1330 - Introduction to Probability and Statistics required for UNM Sociology majors.**

\*\* **Choose modern language from courses with the prefixes ARBC, FREN, PORT, SPAN (except SPAN 2280)**

### Program Approved Electives

Choose from the following courses:



- SOC 2211 - Social Problems **3 credit hour(s)**
- SOC 2213 - Deviant Behavior **3 credit hour(s)**
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**

## Culinary Arts

### Baking, Certificate of Completion

#### School of Business & Information Technology (BIT)

The Baking certificate is a two-term program. Topics include scaling, methods of mixing, processing of ingredients, ingredient functions and baking math. The retail production and merchandising of cookies, pies, pastries, quick breads, breads, sweet yeast and cakes are introduced. Students apply safety and sanitation principles and use their baking skills to formulate more difficult components in the second half of the program. Techniques of classical and contemporary pastry arts are covered, including laminated dough, tarts and specialty cakes.

The certificate program is a required part of the associate of applied science degree which is nationally accredited by the American Culinary Federation Education Foundation's Accrediting Commission. ACF accreditation assures that a program is meeting at least a minimum of standards and competencies set for faculty, curriculum and student services. For more information about ACF, go to [acfchefs.org](http://acfchefs.org). Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**
- CULN 1003 - Food Safety Principles **1 credit hour(s)**  
or
- CULN 1103 - Safety and Sanitation Principles **3 credit hour(s)**
- CULN 1110 - Culinary Skills **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

##### Term 2

- CULN 1130 - Introduction to Baking Fundamentals **5 credit hour(s)**
- CULN 1132 - Applied Baking Principles **5 credit hour(s)**
- **Program Approved Electives 3-5 credit hour(s)**

### Certificate of Completion in Baking 24-28 credit hours

#### Program Approved Electives

- Any ACCT Courses
- Any BIT Courses
- Any CIS courses
- Any CULN Courses (except those required for the degree)
- Any FREN Course
- Any HT Courses

- **Any FITT Courses**
- **Any NUTR Courses**
- **Any SPAN Course**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CSE 1101 - College Success **3 credit hour(s)**
  
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)\***  
**or**
- CULN 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

\* **Maximum 3 special topics credit allowed.**

## **Culinary Arts (AAS), Advanced Baking and Pastry Concentration**

### **School of Business & Information Technology (BIT)**

The mission of CNM's Culinary Arts Program is to teach innovative trends in the hospitality/food service industry, while providing an atmosphere for learning that encourages student growth, teamwork and diversity, that result in life-long learning and employment in the hospitality/food service industry.

Culinary Arts is an excellent field for individuals seeking a challenging career in a rapidly growing industry. The associate degree is a four term program. Students will study baking and pastry, professional cooking, safety, sanitation, nutrition, equipment use, human relations, supervisory skills, dining room skills, business practices and other general coursework. Classes include classroom and lab time.

This program is accredited by the American Culinary Federation Education Foundation's Accrediting Commission. Upon completion of the associate of applied science degree program, students are eligible to become certified culinarians and/or certified pastry cooks through ACF depending on the concentration chosen. ACF accreditation assures that a program is meeting at least a minimum of standards and competencies set for faculty, curriculum and student services. For more information about ACF go to [acfcchefs.org](http://acfcchefs.org). Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- **AAS Written Communication Requirement 3 credit hour(s)**
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**
  
- CULN 1003 - Food Safety Principles **1 credit hour(s)**  
**or**
- CULN 1103 - Safety and Sanitation Principles **3 credit hour(s)**
  
- CULN 1110 - Culinary Skills **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### **Term 2**

- **AAS Choice Requirement 3 credit hour(s)**

- CULN 1112 - Intermediate Culinary Skills **5 credit hour(s)**
- HT 2215 - Purchasing and Cost Controls **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

### Term 3

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- CULN 1130 - Introduction to Baking Fundamentals **5 credit hour(s)**
- CULN 1132 - Applied Baking Principles **5 credit hour(s)**
- NUTR 1010 - Personal and Practical Nutrition **3 credit hour(s)**

### Term 4

- CULN 2020 - Entrepreneurial Food Operations **2 credit hour(s)**
- CULN 2232 - Advanced Baking and Pastry **5 credit hour(s)**
- CULN 2292 - Retail Baking Operations **1 credit hour(s)**
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- **Program Approved Elective 5-6 credit hour(s)**

## **Associate of Applied Science in Culinary Arts, Advanced Baking and Pastry Concentration 60-64 credit hours**

### Program Approved Electives

- **Any ACCT course**
- **Any BA course**
- **Any BEV course \***
- **Any CIS course**
- **Any CULN course \***
- **Any FITT course**
- **Any HT course**
- **Any NUTR course**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CSE 1101 - College Success **3 credit hour(s)**
  
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)\* \***  
**or**
- CULN 2096-2996 - Special Topics **1-3 credit hour(s) \* \***
  
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**
- FREN 1101 - Beginning French I **4 credit hour(s) (or higher)**
- MATH 1315 - College Algebra **3 credit hour(s) \* \* \***
- MATH 1320 - A Survey of Mathematics **3 credit hour(s) \* \* \***
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s) \* \* \***
- MATH 1710 - Calculus I **4 credit hour(s) \* \* \* (or higher)**
- SPAN 1101 - Beginning Spanish **4 credit hour(s) (or higher)**

**\* Except those required for the degree**

**\*\* Maximum 3 special topics credits allowed.**

**\*\*\* Recommended for transfer to 4-year schools.**

# Culinary Arts (AAS), Beverage Management Concentration

## School of Business & Information Technology (BIT)

This Beverage Management Program prepares students for a career as beverage managers working in the beverage and brewing industry. In addition to the culinary and baking foundation courses, students will explore beer production, beverage service, purchasing, cost controls, marketing and business/hospitality law.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CULN 1003 - Food Safety Principles **1 credit hour(s)**
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**
- CULN 1110 - Culinary Skills **4 credit hour(s)**
- HT 1111 - Guest Service Management **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **AAS Written Communication Requirement 3 credit hour(s)**

### Term 2

- BEV 1100 - Beer Production and Styles **1 credit hour(s)**
- CULN 1130 - Introduction to Baking Fundamentals **5 credit hour(s)**
- CULN 1132 - Applied Baking Principles **5 credit hour(s)**
- **AAS Mathematics Requirement 3-4 credit hour(s)**
- NUTR 1010 - Personal and Practical Nutrition **3 credit hour(s)**

### Term 3

- BEV 1160 - Beverage Service I **3 credit hour(s)**
- **AAS Choice Requirement 3 credit hour(s)**
- CULN 1112 - Intermediate Culinary Skills **5 credit hour(s)**
- HT 2215 - Purchasing and Cost Controls **3 credit hour(s)**
- **AAS Human Relations Requirement 3 credit hour(s)**

### Term 4

- BEV 1192 - Draught Systems **1 credit hour(s)**
- BEV 2160 - Beverage Service II **3 credit hour(s)**
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- HT 2240 - Hospitality Law **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## Associate of Applied Science in Culinary Arts, Beverage Management Concentration, 62-63 credit hours

### Program Approved Electives

- Any BEV course \*
- Any CULN course \*

- **Any HT course \***
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CULN 2095 - Cooperative Education **3 credit hour(s)**
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)\* \***
- CULN 2096-2996 - Special Topics **1-3 credit hour(s)\* \***
- CULN 2097 - Independent Study **1-10 credit hour(s)**
- CULN 2098 - Internship **3 credit hour(s)**
- CULN 2195 - Cooperative Education **1 credit hour(s)**
- CULN 2198 - Internship **1 credit hour(s)**
- CULN 2295 - Cooperative Education **2 credit hour(s)**
- CULN 2298 - Internship **2 credit hour(s)**

\* Except those required for the degree

\*\* Maximum 3 Special Topics credits allowed

## Culinary Arts (AAS), Culinary Arts Concentration

### School of Business & Information Technology (BIT)

The mission of CNM's Culinary Arts Program is to teach innovative trends in the hospitality/food service industry, while providing an atmosphere for learning that encourages student growth, teamwork and diversity, that result in life-long learning and employment in the hospitality/food service industry.

Culinary Arts is an excellent field for individuals seeking a challenging career in a rapidly growing industry. The associate degree is a four term program. Students will study baking and pastry, professional cooking, safety, sanitation, nutrition, equipment use, human relations, supervisory skills, dining room skills, business practices and other general coursework. Classes include classroom and lab time.

This program is accredited by the American Culinary Federation Education Foundation's Accrediting Commission. Upon completion of the associate of applied science degree program, students are eligible to become certified culinarians and/or certified pastry cooks through ACF depending on the concentration chosen. ACF accreditation assures that a program is meeting at least a minimum of standards and competencies set for faculty, curriculum and student services. For more information about ACF go to [acfchefs.org](http://acfchefs.org). Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- **AAS Written Communication Requirement 3 credit hour(s)**
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**
  
- CULN 1003 - Food Safety Principles **1 credit hour(s)**
- or
- CULN 1103 - Safety and Sanitation Principles **3 credit hour(s)**
  
- CULN 1110 - Culinary Skills **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)**

- CULN 1130 - Introduction to Baking Fundamentals **5 credit hour(s)**
- CULN 1132 - Applied Baking Principles **5 credit hour(s)**
- NUTR 1010 - Personal and Practical Nutrition **3 credit hour(s)**

### Term 3

- BEV 1160 - Beverage Service I **3 credit hour(s)**
- **Choice Requirement 3 credit hour(s)**
- CULN 1112 - Intermediate Culinary Skills **5 credit hour(s)**
- HT 1111 - Guest Service Management **1 credit hour(s)**
- HT 2215 - Purchasing and Cost Controls **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

### Term 4

- CULN 2214 - Advanced Culinary Skills **4 credit hour(s)**
- CULN 2216 - Advanced Food and Beverage Service **3 credit hour(s)**
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- **Program Approved Electives 3-4 credit hour(s)**

## **Associate of Applied Science in Culinary Arts, Culinary Arts Concentration 61-65 credit hours**

### Program Approved Electives

- **Any ACCT course**
- **Any BEV course**
- **Any BA course (Except those required for the degree)**
- **Any CIS course**
- **Any CULN course (Except those required for the degree)**
- **Any FITT course**
- **Any HT course**
- **Any NUTR course**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CSE 1101 - College Success **3 credit hour(s)**
  
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)\***  
**or**
- CULN 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- FREN 1101 - Beginning French I **4 credit hour(s)**  
**or higher**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)\* \***
- MATH 1320 - A Survey of Mathematics **3 credit hour(s)\* \***
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)\* \***
- MATH 1710 - Calculus I **4 credit hour(s)\* \***
- SPAN 1101 - Beginning Spanish **4 credit hour(s) or higher**

**\* Maximum 3 Special Topics credits allowed\* \* Recommended for transfer to 4-year schools.**

# Culinary Fundamentals, Certificate of Completion

## School of Business & Information Technology (BIT)

The Culinary Fundamentals certificate is a two-term program. Cooking is an excellent field for students seeking a challenging career in a rapidly growing culinary and hospitality industry. Students will study cooking techniques, safety, sanitation, nutrition, knife skills, teamwork skills, equipment use, culinary math and computer skills. Classes include classroom and lab time.

The certificate program is a required part of the Associate of Applied Science Degree which is nationally accredited by the American Culinary Federation Education Foundation's Accrediting Commission. ACF accreditation assures that a program is meeting at least a minimum of standards and competencies set for faculty, curriculum and student services. For more information about ACF go to [acfcchefs.org](http://acfcchefs.org). Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**
- CULN 1110 - Culinary Skills **4 credit hour(s)**
  
- CULN 1003 - Food Safety Principles **1 credit hour(s)**  
or
- CULN 1103 - Safety and Sanitation Principles **3 credit hour(s)**
  
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- CULN 1112 - Intermediate Culinary Skills **5 credit hour(s)**
- **Program Approved Elective 7-8 credit hour(s)**

## Certificate of Completion in Culinary Fundamentals 23-26 credit hours

### Program Approved Electives

- **Any ACCT Course**
- **Any BA Course**
- **Any BEV Course \***
- **Any CIS Course**
- **Any CULN Course \***
- **Any FITT Course**
- **Any FREN Course**
- **Any HT Course**
- **Any NUTR Course**
- **Any SPAN Course**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CSE 1101 - College Success **3 credit hour(s) (or higher)**
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)\*\***
- CULN 2096-2996 - Special Topics **1-3 credit hour(s)\*\***

- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

\* **Except those required for the degree.**

\*\* **Maximum 3 special topics credits allowed.**

## **Food Service Management, Certificate of Completion**

### **School of Business & Information Technology (BIT)**

The Food Service Management certificate program is available to persons interested in the hospitality/food service field who want the skills necessary to become entry-level supervisors or who want to enhance their current knowledge, skills and abilities as managers. Food safety, sanitation and HACCP procedures are stressed. Classroom instruction includes theory and hands-on application in food service, nutrition, human resources, beverages and business practices.

Students may sit for course examinations prepared by the National Restaurant Association Educational Foundation (NRAEF) and by the Educational Institute of the American Hotel and Lodging Association (EI). Upon successful completion, students will be awarded ServSafe® Food Protection Manager Certification from NRAEF and Course Completion Certification from EI. This is an additional certification available from a third party.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- CULN 1003 - Food Safety Principles **1 credit hour(s)**  
or
- CULN 1103 - Safety and Sanitation Principles **3 credit hour(s)**
  
- CULN 1010 - Food Production Fundamentals **3 credit hour(s)**  
or
- CULN 1110 - Culinary Skills **4 credit hour(s)**
  
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**  
or
- HT 1101 - Introduction to Tourism **3 credit hour(s)**
  
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### **Term 2**

- BEV 1160 - Beverage Service I **3 credit hour(s)**
- HT 1111 - Guest Service Management **1 credit hour(s)**
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- NUTR 1010 - Personal and Practical Nutrition **3 credit hour(s)**
- **Program Approved Elective 3-6 credit hour(s)**

## **Certificate of Completion, Food Service Management 23-29 credit hours**

### **Program Approved Electives**

- **Any ACCT Course**



- Any BA Course
- Any BEV Course \*
- Any CIS Course
- Any CULN Course \*
- Any FITT Course
- Any FREN Course
- Any HT Course
- Any NUTR Course
- Any SPAN Course
- CSE 1101 - College Success **3 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)\* \***
- MATH 1320 - A Survey of Mathematics **3 credit hour(s)\* \***
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)\* \***
- MATH 1710 - Calculus I **4 credit hour(s)\* \***

\* Except those required for the certificate

\*\* Course transfers to New Mexico State University School of Hotel, Restaurant and Tourism Management.

## Dental Sciences

### Community Dental Health Coordinator, Certificate of Completion

#### School of Health, Wellness & Public Safety (HWPS)

This program is designed for students who are interested in exploring community dental health. Those with documented credentials within the Dental industry may be able to receive credit towards coursework in CNM Dental Science programs via Credit for Prior Learning (CPL). Community Dental Health Coordinators (CDHC) are health care workers who help promote oral health in underserved communities. A CDHC is essentially a Community Health Worker (CHW) with an emphasized skill set related to oral health. Working under the direction of a Dentist and in partnership with a community clinic, CDHCs will provide oral health education, prevention intervention, provide low level dental care, and help patients navigate an often complex public health system to receive adequate oral health care. CDHCs will be working in the communities, peoples' homes and other locations under the same concept and realm of a CHW. The CDHC will also establish an emergency triage system and an organized oral health referral system with the Community Clinic or Federally Qualified Health System and dentists with whom they will be working.

Gainful Employment information is available from Job Connection Services.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math 2 Proficiency
- Reading & Writing Proficiency 2
- HLTH 1001 - Clinical Preparation
- A current cardiopulmonary resuscitation (CPR) certificate from a DANB-accepted CPR provider and course.

#### Recommended Sequence of Courses

##### Term 1 \*

- CDHC 1119 - Fundamentals of Community Health Coordination **3 credit hour(s)**
- DA 1010 - Dental Science I **3 credit hour(s)**
- DA 1107 - Principles and Techniques of Dental Radiology I **2 credit hour(s)**
- DA 1192 - Practical Application of Dental Materials Lab **1 credit hour(s)**
- DA 1193 - Principles and Techniques of Dental Radiology I Lab **1 credit hour(s)**
- DA 1292 - Fundamentals of Chairside Assisting I Lab **1 credit hour(s)**

## Term 2

- CDHC 1010 - Foundations for Dental Advocacy and Outreach **2 credit hour(s)**
- CDHC 1020 - Dental Health Teaching and Learning Skills **2 credit hour(s)**
- CDHC 1035 - Dental Health Screening and Classification **3 credit hour(s)**
- CDHC 1045 - Palliative Care **3 credit hour(s)**
- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**

## Term 3

- BA 2133 - Principles of Management **3 credit hour(s)**  
or
- BA 2153 - Team Building for Quality **1 credit hour(s)**  
or
- BA 2155 - Quality Leadership **1 credit hour(s)**  
or
- BA 2282 - Leadership and Group Dynamics **3 credit hour(s)**
  
- CDHC 2098 - Community Dental Health Coordinator Internship **6 credit hour(s)**
  
- COMM 1101 - Introduction to Communication **3 credit hour(s)**  
or
- COMM 2240 - Organizational Communication **3 credit hour(s)**  
or
- COMM 2280 - Gender Communication Studies **3 credit hour(s)**  
or
- COMM 2281 - Intercultural Communication Studies **3 credit hour(s)**  
or
- COMM 2282 - Family Communication Studies **3 credit hour(s)**

## Certificate of Completion in Community Dental Health Coordinator 34-36 credit hours

\* Students credentialed as CDA, RDH, or NM Radiation Health and Safety certification and documented sufficient dental employer experience may be awarded Credit for Prior Learning (CPL).

## Dental Assisting, Certificate of Completion

### School of Health, Wellness & Public Safety (HWPS)

Dental Assisting is a four-term program accredited by the Commission on Dental Assisting which provides individuals the opportunity to attain the knowledge and skills necessary to work in a dental clinic or dental office. Upon completion of the program, graduates are prepared to provide basic support under the supervision of a licensed dentist or dental hygienist. Instruction occurs in classrooms, laboratories and dental clinics. It also prepares graduates for state certifications in dental radiographs, pit and fissure sealants, coronal polishing, and topical fluoride application. This program also prepares students for their Dental Assisting National Board (DANB) Exam.

See Recommended Sequence of Courses

## Special Requirements

## Program Entry Registration Screening

This is a "Coordinated Program Entry" program; students must complete a pre-registration screening process administered through the Coordinated Program Entry Office before being eligible to register for program courses.

## Criminal Background

Most of the health programs in HWPS require students undergo the New Mexico Department of Health caregivers criminal history screening program. This involves state and federal felony criminal background checks with fingerprints. This must be completed prior to starting their program or prior to beginning their clinical experiences. Students with a disqualifying conviction can appeal some of those convictions through the New Mexico Department of Health. Depending on the program, students may or may not be allowed to remain in the program pending appeal. Students who do not successfully appeal a disqualifying conviction will not be allowed to start or remain in the program. A successful appeal does not guarantee eligibility for licensure after graduation in professions that require licensure.

## Other Compliance Requirements

Many of the health programs in HWPS require students to undergo a routine urine drug screen, provide documentation of current immunizations, have a current Healthcare Provider Basic Life Support (CPR) certificate and other training prior to beginning the program or beginning clinical education, all of which, along with the criminal background check, are verified through the Office of Verification and Compliance.

## Physical Requirements

Students must be in good physical and psychological health. Students may be asked to provide documentation of a recent physical examination. Many health programs require the student to be able to safely lift and/or move a minimum of 50 pounds. Reasonable accommodations are made for students with disabilities. However, some disabilities may prohibit students from completing program specific competencies or gaining employment. Students with disabilities that may interfere with completing program competencies are advised to contact the School of Health, Wellness & Public Safety (HWPS) Office for more information.

## Program Fees

Program fees cover costs incurred on behalf of the student for student-issued equipment, background checks, drug screens, etc.

## Transportation

Students are responsible for their own transportation to off-campus training sites. (i.e. clinical courses at hospitals, internships, etc.)

## Career and Educational Opportunities

There is a demand for well-trained dental assistants in the metropolitan area as well as in rural areas across the state. Dental assistants work with dentists or a dental hygienist to promote dental health. In addition, they might find work in private offices, dental clinics, dental supply companies, dental laboratories, hospitals, mobile dental clinics or with school programs.

Gainful Employment information is available from Job Connection Services.

**For the graduation policy refer to the Graduating From CNM section, [cnm.edu](http://cnm.edu) or the Students tab in my CNM.**

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- **High School Diploma or Equivalent**
- Math Proficiency 2
- Reading & Writing Proficiency 2
- HLTH 1001 **Clinical Preparation** or
- **A current CPR, BLS or ACLS provider card from a DANB-accepted provider and course**

## Recommended Sequence of Courses

### Term 1

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- DA 1010 - Dental Science I **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**

### Term 2 - Coordinated Entry - Typically Offered Fall or Spring

- DA 1101 - Practical Application of Dental Materials **2 credit hour(s)**
- DA 1104 - Tooth Morphology Histology and Recordings **3 credit hour(s)**
- DA 1107 - Principles and Techniques of Dental Radiology I **2 credit hour(s)**
- DA 1119 - Fundamentals of Chairside Assisting I **2 credit hour(s)**
- DA 1192 - Practical Application of Dental Materials Lab **1 credit hour(s)**
- DA 1193 - Principals and Techniques of Dental Radiology I Lab **1 credit hour(s)**
- DA 1292 - Fundamentals of Chairside Assisting I Lab **1 credit hour(s)**

### Term 3 - Typically offered Spring or Summer

- DA 1512 - Dental Science II **3 credit hour(s)**
- DA 1517 - Principles and Techniques of Dental Radiology II **2 credit hour(s)**
- DA 1519 - Fundamentals of Chairside Assisting II **2 credit hour(s)**
- DA 1590 - Clinical Experience I **6 credit hour(s)**
- DA 1592 - Fundamentals of Chairside Assisting II Lab **1 credit hour(s)**
- DA 1593 - Principles and Techniques of Dental Radiology II Lab **1 credit hour(s)**

### Term 4 - Typically Offered Summer or Fall

- DA 2090 - Clinical Experience II **5 credit hour(s)**
- DA 2408 - Dental Administration and Communication **1 credit hour(s)**
- DA 2492 - Dental Administration and Communications Lab **1 credit hour(s)**
- DA 2510 - DANB Preparation **2 credit hour(s)**
- DA 2513 - Introduction to Dental Specialties **2 credit hour(s)**
- DA 2593 - Introduction to Dental Specialties Lab **1 credit hour(s)**

## Dental Assisting, Certificate of Completion 48 credit hours

## Developmental Education

### Developmental Education

#### School of Adult & General Education

The Developmental Education (DE) program offers courses to help students prepare for college in English for Speakers of Other Languages (ESOL), Integrated Reading and Writing, and Math. Courses are numbered 0100 - 0999.

Developmental courses are graded CR (credit) and NC (no credit) to help students build their skills without the pressure of the traditional grading system (A, B, C, D, F). While credit from courses numbered below 1000 is not transferable to other degree-granting institutions, these courses typically help students meet admissions requirements and program proficiencies.

### English for Speakers of Other Languages (ESOL)

#### School of Adult & General Education (SAGE)

The School of Adult and General Education (SAGE) provides developmental education English for Speakers of Other Languages (ESOL) classes. These courses are designed to prepare non-native English speakers for college-level reading, writing, and oral communication demands. ESOL instructors not only address listening, speaking, reading, and writing skills, but they also concentrate on developing students' grammatical and lexical knowledge. Additionally, ESOL teachers help learners explore the aspects of American culture that impact college students.

### Program Proficiencies and/or Prerequisites

Students registering for ESOL classes need to take the Accuplacer test to determine the appropriate course level.

### Recommended Sequence of Courses

- ESOL 0350 - Advanced Listening and Speaking Skills for Speakers of Other Languages **3 credit hour(s)**
- ESOL 0450 - Introduction to College English for Speakers of Other Languages **3 credit hour(s)**
- ESOL 0551 - Basic Reading/Writing Skills for Speakers of Other Languages **3 credit hour(s)**
- ESOL 0651 - Intensive Grammar for Speakers of Other Languages **3 credit hour(s)**
- ESOL 0971 - Integrated Reading and Writing for Speakers of Other Languages I **3 credit hour(s)**
- ESOL 0981 - Integrated Reading and Writing for Speakers of Other Languages II **3 credit hour(s)**

## **ESOL (English for Speakers of Other Languages) Communication and Culture, Certificate of Completion**

### **School of Adult & General Education (SAGE)**

In addition to the developmental education sequence of ESOL 0350, 0450, 0551, 0651, 0971, and 0981, SAGE also has an ESOL Certificate of Completion in Culture and Communication. This certificate is linked to a specific career or technical field at CNM. Students take four, college-level ESOL classes that use content-specific materials to support the career technical field. They also take one introductory course in the career or technical field to complete the 16 credits required for this Certificate of Completion. Students may take between one and four of these courses to increase their language proficiencies in the areas they have identified as necessary for their career interests.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- High School Diploma or Equivalent
- Reading & Writing Proficiency 1

### **Communication and Culture for Specific Purposes Curriculum**

- ESOL 1001 - Academic and Workplace Communication for Specific Purposes **3 credit hour(s)**
- ESOL 1010 - Reading and Vocabulary for Specific Purposes **3 credit hour(s)**
- ESOL 1020 - English Composition and Grammar for Specific Purposes **4 credit hour(s)**
- ESOL 1030 - U.S. Culture and Contemporary Issues for Specific Purposes **3 credit hour(s)**
  
- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**  
or
- School Designated Introductory Course **3 credit hour(s)**

## **Certificate of Completion in ESOL Communication and Culture 16 credit hours**

## **Diagnostic Medical Sonography**

### **Diagnostic Medical Sonography, Associate of Applied Science**

#### **School of Health, Wellness & Public Safety (HWPS)**

The Diagnostic Medical Sonography (DMS) program provides the student with the knowledge, skills and professional behaviors necessary for employment as a Diagnostic Medical Sonographer. A sonographer is a health care professional who uses high-frequency sound waves as a diagnostic tool to view the human body in order to aid the physician in the determination of a diagnosis. Students study the use of sound waves to generate images of various parts of the human body. The successful graduate will have the ability to conceptualize in 3-dimensional form. The program provides classroom didactic instruction, hands-on scanning, laboratory instruction and clinical experiences in a variety of medical facilities and outpatient diagnostic centers. Students are prepared to sit for the national board exams administered by the American Registry of Diagnostic Medical Sonographers in the specialty areas of "Abdomen," "Obstetrics and Gynecology," and "Breast." Successful completion of this exam results in attaining the RDMS (Registered Diagnostic Medical Sonographer) credential.

The DMS program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in collaboration with the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS).

This program's first term courses are offered in the fall term only. This may delay a student's program start date. Please check with an

Academic Coach for more information.

JRC-DMS

6021 University Boulevard, Suite 500  
Ellicott City, MD 21043  
Email address: mail@jrcdms.org  
Primary contacts: Cindy Weiland or Gerry Magat  
Phone number: 443-973-3251

Commission on Accreditation of Allied Health Education Programs

25400 US Highway 19 N, Suite 158  
Clearwater, FL 33763  
Phone: 727-210-2350  
Fax: 727-210-2354

Special Requirements

HWPS - Coordinated Program Entry Screening Insert  
HWPS - Criminal Background Insert  
HWPS - Other Compliance Requirements Insert

Physical Requirements

Students must be in good physical and psychological health. Students may be asked to provide documentation of a recent physical examination. Many health programs require the student to be able to safely lift and/or move a minimum of 50 pounds. Reasonable accommodations are made for students with disabilities. However, some disabilities may prohibit students from completing program specific competencies or gaining employment. Students with disabilities that may interfere with completing program competencies are advised to contact the School of Health, Wellness & Public Safety (HWPS) Office for more information.

HWPS - Program Fees Insert

Transportation

Students are responsible for their own transportation to off-campus training sites. (i.e. clinical courses at hospitals, internships, etc.)

Career and Educational Opportunities

There is currently a nationwide demand for registered sonographers. Graduates will be employed as sonographers in hospitals, physician's offices and private sonography practices.

For the graduation policy refer to the Graduating from CNM section, cnm.edu or the Students tab in my CNM.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- BIO 1410 + BIO 1492
- CHEM 1410 or CHEM 1710
- MATH 1310
- Reading & Writing Proficiency 2

## Required Sequence of Courses

**This is a Coordinated Entry Program** Some core program courses are offered in specific terms only. This may delay a student's program start date. Please check with an Academic Coach for more information.

### Term 1

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- HLTH 1040 - Introduction to Medical Imaging **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- MATH 1315 - College Algebra **3 credit hour(s)**
- **or**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**

- or
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**

## Term 2

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)\***
- PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**

## Term 3 -Typically Offered Fall Term Only

- DMS 1115 - Sonographic Cross Sectional Anatomy **2 credit hour(s)**
- DMS 1120 - Abdominal Sonography **3 credit hour(s)**
- DMS 1125 - Gynecological Sonography **2 credit hour(s)**
- DMS 1130 - Sonographic Physics I **2 credit hour(s)**
- DMS 1193 - Sonographics Concepts Lab I **2 credit hour(s)**

## Term 4 - Typically Offered Spring Term Only

- DMS 1520 - Sonography of the Breast, Superficial and Retroperitoneal Structures **2 credit hour(s)**
- DMS 1525 - Obstetrical Sonography **2 credit hour(s)**
- DMS 1530 - Sonographic Physics II **2 credit hour(s)**
- DMS 1590 - Clinical Sonography I **4 credit hour(s)**
- DMS 1593 - Sonographic Concepts Lab II **1 credit hour(s)**

## Term 5 - Typically Offered Summer Term Only

- DMS 2020 - Fetal Echo, Neonatal and Pediatric Sonography **3 credit hour(s)**
- DMS 2030 - Sonographic Physics III **1 credit hour(s)**
- DMS 2090 - Clinical Sonography II **4 credit hour(s)**
- DMS 2093 - Sonographics Concepts Lab III **1 credit hour(s)**

## Term 6 - Typically Offered Fall Term Only

- DMS 2110 - Vascular Sonography **3 credit hour(s)**
- DMS 2193 - Vascular Concepts Lab **1 credit hour(s)**
- DMS 2290 - Clinical Sonography III **4 credit hour(s)**

## Term 7 - Typically Offered Spring Term Only

- DMS 2490 - Vascular Clinical **1 credit hour(s)**
- DMS 2690 - Clinical Sonography IV **4 credit hour(s)**
- DMS 2999 - Registry Review **2 credit hour(s)**

## **Associate of Applied Science in Diagnostic Medical Sonography 71-72 credit hours**

\* COMM 2221 - Interpersonal Communication Studies recommended

## **Diesel Equipment Technology**

### **Diesel Equipment Technology, Certificate of Completion**

#### **School of Applied Technologies (AT)**

Students study a variety of vehicle systems in classes combining theory and laboratory exercises that prepare graduates to work on a

variety of medium- and heavy-duty trucks and equipment. The program provides extensive hands-on training opportunities to ensure competency at program completion.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- DETC 1111 - Introduction to Diesel Equipment Theory **2 credit hour(s)**
- DETC 1192 - Introduction to Diesel Equipment Lab **1 credit hour(s)**
- DETC 1121 - M/HD Brake Systems Theory **2 credit hour(s)**
- DETC 1292 - M/HD Brake Systems Lab **2 credit hour(s)**
- DETC 1131 - M/HD Suspension and Steering Theory **2 credit hour(s)**
- DETC 1392 - M/HD Suspension and Steering Lab **1 credit hour(s)**
- DETC 1141 - Diesel Equipment Electrical Systems Theory **2 credit hour(s)**
- DETC 1492 - Diesel Equipment Electrical Systems Lab **2 credit hour(s)**
- DETC 1151 - Fixed Power Systems Theory **1 credit hour(s)**
- DETC 1592 - Fixed Power Systems Lab **1 credit hour(s)**

### Term 2

- DETC 1211 - M/HD Engine Repair Theory **2 credit hour(s)**
- DETC 1193 - M/HD Engine Repair Lab **2 credit hour(s)**
- DETC 1221 - M/HD Automatic Transmission Theory **1 credit hour(s)**
- DETC 1293 - M/HD Automatic Transmission Lab **1 credit hour(s)**
- DETC 1225 - Hydraulics Theory **1 credit hour(s)**
- DETC 1393 - Hydraulics Lab **1 credit hour(s)**
- DETC 1231 - M/HD Heating, Ventilation and Air Conditioning Theory **1 credit hour(s)**
- DETC 1493 - M/HD Heating, Ventilation and Air Conditioning Lab **1 credit hour(s)**
- DETC 1241 - M/HD Electronic Systems Theory **2 credit hour(s)**
- DETC 1593 - M/HD Electronic Systems Lab **1 credit hour(s)**
- DETC 1250 - Diesel Power and the Environment **2 credit hour(s)**

### Term 3

- DETC 2111 - Preventive Maintenance Theory **1 credit hour(s)**
- DETC 2194 - Preventive Maintenance Lab **3 credit hour(s)**
- DETC 2121 - Diesel Engine Performance Theory **2 credit hour(s)**
- DETC 2294 - Diesel Engine Performance Lab **2 credit hour(s)**
- DETC 2131 - Manual Shift Transmissions and Drivelines Theory **1 credit hour(s)**
- DETC 2394 - Manual Shift Transmissions and Drivelines Lab **1 credit hour(s)**
- DETC 2135 - Automated Manual Transmissions and Clutches Theory **1 credit hour(s)**
- DETC 2494 - Automated Manual Transmissions and Clutches Lab **1 credit hour(s)**
- DETC 2198 - Diesel Equipment Internship **1 credit hour(s)**

## Certificate of Completion in Diesel Equipment Technology 44 credit hours



# Transportation Technology (AAS), Diesel Equipment Technology Concentration

## School of Applied Technologies (AT)

Students who earn certificates in their chosen concentration are encouraged to earn an Associate Degree in Transportation Technology by taking academic and related trades classes, including welding, OSHA compliance, environmental protection, communication, English and physical science. Upon completion of the associate degree program, graduates will be eligible for entry level employment at automotive or medium/heavy duty equipment dealerships and independent repair facilities. Graduates have the potential to work in management and other related areas of service operations.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- DETC 1111 - Introduction to Diesel Equipment Theory **2 credit hour(s)**
- DETC 1192 - Introduction to Diesel Equipment Lab **1 credit hour(s)**
- DETC 1121 - M/HD Brake Systems Theory **2 credit hour(s)**
- DETC 1292 - M/HD Brake Systems Lab **2 credit hour(s)**
- DETC 1131 - M/HD Suspension and Steering Theory **2 credit hour(s)**
- DETC 1392 - M/HD Suspension and Steering Lab **1 credit hour(s)**
- DETC 1141 - Diesel Equipment Electrical Systems Theory **2 credit hour(s)**
- DETC 1492 - Diesel Equipment Electrical Systems Lab **2 credit hour(s)**
- DETC 1151 - Fixed Power Systems Theory **1 credit hour(s)**
- DETC 1592 - Fixed Power Systems Lab **1 credit hour(s)**

### Term 2

- DETC 1211 - M/HD Engine Repair Theory **2 credit hour(s)**
- DETC 1193 - M/HD Engine Repair Lab **2 credit hour(s)**
- DETC 1221 - M/HD Automatic Transmission Theory **1 credit hour(s)**
- DETC 1293 - M/HD Automatic Transmission Lab **1 credit hour(s)**
- DETC 1225 - Hydraulics Theory **1 credit hour(s)**
- DETC 1393 - Hydraulics Lab **1 credit hour(s)**
- DETC 1231 - M/HD Heating, Ventilation and Air Conditioning Theory **1 credit hour(s)**
- DETC 1493 - M/HD Heating, Ventilation and Air Conditioning Lab **1 credit hour(s)**
- DETC 1241 - M/HD Electronic Systems Theory **2 credit hour(s)**
- DETC 1593 - M/HD Electronic Systems Lab **1 credit hour(s)**
- DETC 1250 - Diesel Power and the Environment **2 credit hour(s)**

### Term 3

- DETC 2111 - Preventive Maintenance Theory **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- DETC 2194 - Preventive Maintenance Lab **3 credit hour(s)**
- DETC 2121 - Diesel Engine Performance Theory **2 credit hour(s)**
- DETC 2294 - Diesel Engine Performance Lab **2 credit hour(s)**
- DETC 2131 - Manual Shift Transmissions and Drivelines Theory **1 credit hour(s)**
- DETC 2394 - Manual Shift Transmissions and Drivelines Lab **1 credit hour(s)**

- DETC 2135 - Automated Manual Transmissions and Clutches Theory **1 credit hour(s)**
- DETC 2494 - Automated Manual Transmissions and Clutches Lab **1 credit hour(s)**
- DETC 2198 - Diesel Equipment Internship **1 credit hour(s)**

#### Term 4

- ENG 1101 - College Writing **3 credit hour(s)**
  
- TRDR 1420 - Class B Theory and Operational Practices **9 credit hour(s)**  
**or**
- AUTC 2250 - Transportation Alternative Fuels **2 credit hour(s)**  
**and**
- OSH 2016 - Occupational Safety I **1 credit hour(s)**  
**and**
- WELD 1062 - Welding Fundamentals **3 credit hour(s)**

#### Term 5

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- AUTC 2999 - Transportation Technology Capstone **1 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s) or higher**
  
- **Humanities/Fine Arts Requirement 3 credit hour(s)**  
**or**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
  
- **Program Approved Electives 3 credit hour(s)**

## **Associate of Applied Science Degree in Transportation Technology, Concentration in Diesel Equipment Technology 69-73 credit hours**

### Program Approved Electives

- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- AUTC 2096-2996 - Special Topics **1-7 credit hour(s)**
- DETC 2096-2996 - Special Topics **1-7 credit hour(s)**

## **Early Childhood Multicultural Education**

### **Child Development, Certificate of Achievement**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

The CNM Child Development Certificate of Achievement is aligned to support the New Mexico Child Development Certificate (CDC) offered by the New Mexico Office of Child Development. The New Mexico Child Development Certificate is the state equivalent of the Child Development Associate (CDA). CNM offers the coursework for the Child Development Certificate in English and Spanish.

The CNM Child Development Certificate fulfills the coursework for the New Mexico Child Development Certificate. Individuals must be currently working in a child-care setting to qualify for the state certificate. To apply for the New Mexico Child Development Certificate, an applicant must request a Certificate Packet from the New Mexico Kids Network office by calling (505) 277-1118. To successfully complete this packet requires verification of completion of certificate coursework, professional resource file, family opinion questionnaire, observation and oral interview.

Students who complete the Child Development Certificate will be able to continue their coursework to pursue an Associate of Arts degree in Early Childhood Multicultural Education (ECME) in the following degree concentrations:

**Birth - 3rd Teacher:** This concentration is designed for students who are or would like to work as early childhood teachers in the private sector, teacher's aides in an elementary school, or interested in becoming a licensed PreK- 3rd grade teacher in an elementary school (upon completion of a bachelor's degree in Early Childhood).

**Early Childhood Program Administration:** This concentration is designed for people who are or would like to work as administrators of early education programs. Students completing this degree can continue to a bachelor's degree in Early Childhood.

**Infant Family Studies:** This concentration is designed for people who are or would like to work in the early intervention or home visiting field and/or complete a bachelor's degree in Early Childhood.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Program Requirements

- ECME 1104 - Child Growth Development and Learning **3 credit hour(s)**
  
- ECME 1108 - Health Safety and Nutrition **2 credit hour(s)**  
or
- ECME 2214 - Guiding Young Children **3 credit hour(s)**
  
- ECME 2204 - Assessment of Children and Evaluation of Programs **3 credit hour(s)**
- ECME 2206 - Family and Community Collaboration **3 credit hour(s)**

## Child Development, Certificate of Achievement, 11-12 credit hours

## Early Childhood Multicultural Education (AA), Birth-3rd Grade Teacher Concentration

### School of Communication, Humanities & Social Sciences (CHSS)

This degree is designed for students who are working or would like to work in the field of early childhood, which includes PreK-3rd grade in the elementary schools. This Associate of Arts degree is fully transferable to any college or university in New Mexico with an early childhood associate or bachelor's degree.

The Birth-3rd Grade Teacher concentration is designed for students who are or would like to work as early childhood teachers in the private sector, teacher's aides in an elementary school, or interested in becoming a licensed PreK- 3rd grade teacher in an elementary school (upon completion of a bachelor's degree in Early Childhood). CNM offers early childhood coursework in English and in Spanish.

Students completing a degree in Early Childhood Multicultural Education may also meet the requirements for the CNM Child Development Certificate. This certificate fulfills the coursework requirement for the New Mexico Child Development Certificate. Individuals must be currently working in a child-care setting to qualify for the state certificate. To apply for the New Mexico Child Development Certificate, an applicant must request a Certificate Packet from the New Mexico Kids Network office by calling (505) 277-1118. Successful completion requires verification of coursework completion, a professional resource file, a family opinion questionnaire, an observation, and oral interview.

Students completing all of the ECME coursework within any degree concentration are eligible to apply for the One Year Vocational Certificate issued by the New Mexico Office of Child Development. For more information, contact the Office of Child Development.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 or MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ECME 1102 - Professionalism **2 credit hour(s)**
- ECME 1104 - Child Growth Development and Learning **3 credit hour(s)**
- ECME 1108 - Health Safety and Nutrition **2 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
  
- MATH 1110 - Math for Teachers I **3 credit hour(s)**  
or
- MATH 1115 - Math for Teachers II **3 credit hour(s)**  
or
- MATH 1315 - College Algebra **3 credit hour(s) or higher**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s) (Recommended) \***
  
- ECME 2201 - Introduction to Language, Literacy and Reading **3 credit hour(s)**
- ECME 2204 - Assessment of Children and Evaluation of Programs **3 credit hour(s)**
- ECME 2206 - Family and Community Collaboration **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**

### Term 3

- ECME 1109 - Curriculum Development through Play **3 credit hour(s)**
- ECME 1190 - Curriculum Development Through Play Practicum **2 credit hour(s)**
  
- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s) (Recommended) \***  
or
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- ECME 2212 - Curriculum Development and Implementation: Age 3-Grade 3 **3 credit hour(s)**
- ECME 2214 - Guiding Young Children **3 credit hour(s)**
- ECME 2290 - Curriculum Development and Implementation: Age 3-Grade 3 Practicum **2 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

## **Associate of Arts in Early Childhood Multicultural Education, Birth - 3rd Grade Teacher Concentration 64 credit hours**

\* Recommended for transfer to a 4-year program.

### **Early Childhood Multicultural Education (AA), Early Childhood Program Administration Concentration**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

The Early Childhood Program Administration Concentration is designed for students who would like to run their own business in early childhood or work as program directors, assistant directors, or lead teachers in an early childhood setting. Individuals will graduate with a strong background in early childhood and early childhood administration.

Students pursuing a degree in Early Childhood Program Administration can earn an Early Childhood Program Administration Certificate of Achievement while working towards the Associate degree. Students who complete the CNM Early Childhood Program Administration Certificate are eligible to apply for an Early Childhood Program Administration certificate from the New Mexico Office of Child Development. This certificate meets CYFD regulations for director qualifications. For more information, contact the Office of Child Development.

Students completing a degree in Early Childhood Multicultural Education may also meet the requirements for the Child Development, Certificate of Achievement. This CNM certificate fulfills the coursework requirement for the New Mexico Child Development Certificate. Individuals must be currently working in a child-care setting to qualify for the state certificate. To apply for the New Mexico Child Development Certificate, an applicant must request a Certificate Packet from the New Mexico Kids Network office by calling (505) 277-1118. Successful completion requires verification of coursework completion, a professional resource file, a family opinion questionnaire, an observation, and oral interview.

Students completing all of the ECME coursework within any degree concentration are eligible to apply for the One Year Vocational Certificate issued by the New Mexico Office of Child Development. For more information, contact the Office of Child Development.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 **or** MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- ECME 1102 - Professionalism **2 credit hour(s)**
- ECME 1104 - Child Growth Development and Learning **3 credit hour(s)**
- ECME 1108 - Health Safety and Nutrition **2 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
  
- MATH 1110 - Math for Teachers I **3 credit hour(s)**  
**or**
- MATH 1115 - Math for Teachers II **3 credit hour(s)**  
**or**
- MATH 1315 - College Algebra **3 credit hour(s) or higher**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**

#### **Term 2**

- COMM 1130 - Public Speaking **3 credit hour(s)**  
**or**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**

or

- COMM 2270 - Communication Studies for Teachers **3 credit hour(s) (Recommended) \***
- ECME 2204 - Assessment of Children and Evaluation of Programs **3 credit hour(s)**
- ECME 2206 - Family and Community Collaboration **3 credit hour(s)**
- ECME 2220 - Program Management **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**

### Term 3

- ECME 2222 - Effective Program Development for Diverse Learners and their Families **3 credit hour(s)**
  - ECME 2490 - Effective Program Development for Diverse Learners and their Families Practicum **2 credit hour(s)**
  - EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s) (Recommended) \***
- or
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  - **Fine Arts Requirement 3 credit hour(s)**
  - **Laboratory Sciences Requirement 4 credit hour(s)**
  - **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- ECME 2214 - Guiding Young Children **3 credit hour(s)**
- ECME 2224 - Professional Relationships **3 credit hour(s)**
- ECME 2590 - Professional Relationships Practicum **2 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

## **Associate of Arts in Early Childhood Multicultural Education, Early Childhood Program Administration Concentration 64 credit hours**

\* Recommended for transfer to a 4-year program.

## **Early Childhood Multicultural Education (AA), Infant Family Studies Concentration**

### **School of Communication, Humanities & Social Sciences (CHSS)**

This degree is designed for students who are working or would like to work in the field of early childhood, home visiting and early intervention. The Infant Family Studies concentration in Early Childhood will transfer to a bachelor's program at Eastern New Mexico University.

Students pursuing a degree in Infant Family Studies can complete an Infant Family Studies Certificate of Achievement and a Child Development Certificate while working towards the associate degree. Students who complete these certificates at CNM are eligible to apply for state certificates offered by the New Mexico Office of Child Development. For more information, contact the Office of Child Development.

Students completing all of the ECME coursework within any degree concentration are eligible to apply for the One Year Vocational Certificate issued by the New Mexico Office of Child Development. For more information, contact the Office of Child Development.

Students completing the Family, Infant and Toddler degree concentration may apply for initial certification as a Developmental Specialist I Advanced at <http://nmhealth.org/ddsd/nmfit/>

## **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 **or** MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ECME 1102 - Professionalism **2 credit hour(s)**
- ECME 1104 - Child Growth Development and Learning **3 credit hour(s)**
- ECME 1108 - Health Safety and Nutrition **2 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
  
- MATH 1110 - Math for Teachers I **3 credit hour(s)**  
**or**
- MATH 1115 - Math for Teachers II **3 credit hour(s)**  
**or**
- MATH 1315 - College Algebra **3 credit hour(s)**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
**or**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
**or**
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s) (Recommended) \***
  
- ECME 2204 - Assessment of Children and Evaluation of Programs **3 credit hour(s)**
- ECME 2206 - Family and Community Collaboration **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- ECME 2230 - Infant Toddler Growth and Development (Prenatal to 3) **3 credit hour(s)**
- ECME 2690 - Infant Toddler Growth and Development Practicum **2 credit hour(s)**

### Term 3

- ECME 2232 - Relationships and Reflective Practice in Infant Family Studies **3 credit hour(s)**
- ECME 2790 - Relationships and Reflective Practice in Infant Family Studies Practicum **2 credit hour(s)**
- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s) (Recommended) \***  
**or**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- ECME 2214 - Guiding Young Children **3 credit hour(s)**
- ECME 2234 - Effective Principles and Practices in Infant Family Studies **3 credit hour(s)**

- Humanities Requirement 3 credit hour(s)
- Laboratory Science Requirement 4 credit hour(s)

## **Associate of Arts in Early Childhood Multicultural Education, Infant Family Studies Concentration 64 credit hour(s)**

\* Recommended for transfer to a 4-year program.

### **Early Childhood Program Administration, Certificate of Completion**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

The Early Childhood Program Administration Certificate is designed for students who would like to run their own business in early childhood or work as program directors, assistant directors, or lead teachers in an early childhood setting. Individuals will graduate with a strong background in early childhood and early childhood administration. For current early childhood program professionals, this certificate will increase your leadership abilities and help you take your early childhood program to the next level.

Students pursuing a degree in Early Childhood Program Administration can earn an Early Childhood Program Administration Certificate of Achievement while working towards the associate degree. Students who complete this certificate are eligible to apply for a certificate in Early Childhood Program Administration from the New Mexico Office of Child Development. This certificate meets CYFD regulations for director qualifications. For more information, contact the Office of Child Development.

Students completing all of the ECME coursework within any degree concentration are eligible to apply for the One Year Vocational Certificate issued by the New Mexico Office of Child Development. For more information, contact the Office of Child Development.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

#### **Required Courses**

- ECME 1104 - Child Growth Development and Learning **3 credit hour(s)**
- ECME 2220 - Program Management **3 credit hour(s)**
- ECME 2222 - Effective Program Development for Diverse Learners and their Families **3 credit hour(s)**
- ECME 2224 - Professional Relationships **3 credit hour(s)**
- ECME 2490 - Effective Program Development for Diverse Learners and their Families Practicum **2 credit hour(s)**
- ECME 2590 - Professional Relationships Practicum **2 credit hour(s)**

### **Early Childhood Program Administration, Certificate of Completion, 16 credit hours**

### **Infant Family Studies, Certificate of Achievement**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

A certificate in Infant Family Studies will lead to a career pathway in home visiting, early intervention, Early Head Start, and/or infant and toddler teachers. For professionals already in the field, this certificate will enhance their ability to work with families and young children. Students pursuing this certificate are encouraged to complete the Early Childhood Multicultural Education (AA), Infant Family Studies Concentration.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

#### **Required Courses**

- ECME 2230 - Infant Toddler Growth and Development (Prenatal to 3) **3 credit hour(s)**
- ECME 2232 - Relationships and Reflective Practice in Infant Family Studies **3 credit hour(s)**
- ECME 2234 - Effective Principles and Practices in Infant Family Studies **3 credit hour(s)**



- ECME 2690 - Infant Toddler Growth and Development Practicum **2 credit hour(s)**
- ECME 2790 - Relationships and Reflective Practice in Infant Family Studies Practicum **2 credit hour(s)**

## **Infant Family Studies, Certificate of Achievement, 13 credit hours**

# **Earth and Planetary Science**

## **Earth and Planetary Science, Associate of Science**

### **School of Math, Science & Engineering (MSE)**

Earth and Planetary Science is the study of the Earth and other bodies in the solar system. At CNM, Geology is the focus of our Earth and Planetary Science program. Introductory courses study the planet Earth, including the materials that make up the Earth, the processes that act on these materials, the evolution of the continents and life through time, and the science behind environmental issues. This program is designed to meet the requirements for an Associate of Science in Earth and Planetary Science from CNM and prepare a student to obtain a Bachelor of Science in Earth and Planetary Science at the University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the UNM Earth and Planetary Science Department. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- (MATH 1410 and MATH 1415) or MATH 1530
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- EPS 1101 - Introduction to Geology **3 credit hour(s)**
- EPS 1192 - Introduction to Geology Laboratory **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### **Term 2**

- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**

#### **Term 3**

- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**  
or
- **Modern Language Requirement 3-4 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**

- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 4

- ENG 2219 - Technical Writing **3 credit hour(s)**  
or
- ENG 2220 - Expository Writing **3 credit hour(s)**
- EPS 2201 - Earth History **3 credit hour(s)**
- EPS 2292 - Earth History Laboratory **1 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- PHYS 1810 - Calculus-Based Physics II **4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Science in Earth and Planetary Science 62 - 63 credit hours

### Electrical Trades

#### Electrical Trades (AAS), Photovoltaic (PV) Concentration

##### School of Applied Technologies (AT)

The Associate of Applied Science Degree in Electrical Technologies-Photovoltaic concentration provides students with the knowledge and technical skills necessary to gain entry level employment in the electrical and photovoltaic installation industry.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- ELTR 1005 - Electrical Theory I **4 credit hour(s)**
- ELTR 1015 - Electrical Math I **4 credit hour(s)**
- ELTR 1020 - Electrical DC/AC Lab **3 credit hour(s)**
- ELTR 1030 - AC Circuitry, Motors, Generators **3 credit hour(s)**

##### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- ELTR 1210 - Electrical Theory II **4 credit hour(s)**
- ELTR 1215 - Blueprint Reading I **4 credit hour(s)**
- ELTR 1220 - Residential Wiring Lab **3 credit hour(s)**
- ELTR 1230 - Residential Electrical Services **3 credit hour(s)**

##### Term 3

- ELTR 2005 - Electrical Theory III **4 credit hour(s)**
- ELTR 2015 - Electrical Motor Control Theory **4 credit hour(s)**
- ELTR 2020 - Industrial Motor Control Lab **3 credit hour(s)**

- ELTR 2030 - Industrial Power Distribution **3 credit hour(s)**

#### Term 4

- ELTR 2610 - Photovoltaic Installation Safety **2 credit hour(s)**
- ELTR 2620 - Photovoltaic Theory/Design and Installation **3 credit hour(s)**
- ELTR 2630 - Advanced PV Theory /Design/ Installation/ Maintenance and Commissioning **4 credit hour(s)**
- ELTR 2692 - PV Installation Lab **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**

#### Term 5

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Associate of Applied Science in Construction Technology, Electrical Photovoltaic Installation Concentration 69-70 credit hours

### Electrical Trades (AAS), Programmable Logic Controls (PLC) Concentration

#### School of Applied Technologies (AT)

The Associate of Applied Science Degree in Electrical Technologies with concentration options in programmable logic controls and photovoltaic provides students with the knowledge and technical skills necessary to gain employment in the electrical industry.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- ELTR 1005 - Electrical Theory I **4 credit hour(s)**
- ELTR 1015 - Electrical Math I **4 credit hour(s)**
- ELTR 1020 - Electrical DC/AC Lab **3 credit hour(s)**
- ELTR 1030 - AC Circuitry, Motors, Generators **3 credit hour(s)**

##### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- ELTR 1210 - Electrical Theory II **4 credit hour(s)**
- ELTR 1215 - Blueprint Reading I **4 credit hour(s)**
- ELTR 1220 - Residential Wiring Lab **3 credit hour(s)**
- ELTR 1230 - Residential Electrical Services **3 credit hour(s)**

##### Term 3

- ELTR 2005 - Electrical Theory III **4 credit hour(s)**
- ELTR 2015 - Electrical Motor Control Theory **4 credit hour(s)**
- ELTR 2020 - Industrial Motor Control Lab **3 credit hour(s)**
- ELTR 2030 - Industrial Power Distribution **3 credit hour(s)**

#### Term 4

- ELTR 2210 - Programmable Logic Controller Theory **4 credit hour(s)**
- ELTR 2220 - PLC Installation and Operation **3 credit hour(s)**
- ELTR 2230 - PLC Systems Operation and Troubleshooting **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**

#### Term 5

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**  
or
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## **Associate of Applied Science in Electrical Trades, Programmable Logic Controls (PLC) 67-68 credit hours**

### **Electrical Trades (Certificate of Completion), General Concentration**

#### **School of Applied Technologies (AT)**

The Electrical Trades Certificate Program provides students the opportunity to gain the knowledge and technical skills necessary to enter the field of electrical trades. A certificate is obtained by the student after successful completion of three terms and is accepted by the State of New Mexico Construction Industries Division as two years experience toward the four-year experience requirement for the State of New Mexico Journeyman Electrical Certificate (JE98).

Theory and lab courses are designed to be taken together to give students an in-depth understanding of the concepts of electrical trades.

First term students obtain knowledge and hands-on training for personal and tool safety, meter reading, electrical circuitry, electrical formulas, electrical calculations, material identification and AC/DC motor operation and troubleshooting.

Second term students are taught residential blueprint reading, application of the National Electrical Code (NEC), NM Electrical Code (NMEC) and local electrical codes, installation of branch circuits and feeders, residential services, single pole, three and four-way switch circuits, door chime installation, dryer, range and swamp cooler circuitry and conduit bending.

Third term students receive Occupational Safety Hazard Administration (OSHA) compliance safety training, technical skills, power distribution systems, 3-phase services, hazardous locations, commercial blueprint reading, circuitry, 3-phase motor starters, timers, mechanical and hydraulic conduit bending, power threaders, cutting and threading of rigid metal conduit, knock-out punches, hammer-drill operation, powder actuated fasteners, cable installation, wire pulling and application of the NEC.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### **Recommended Sequence of Courses**

## Term 1

- ELTR 1005 - Electrical Theory I **4 credit hour(s)**
- ELTR 1015 - Electrical Math I **4 credit hour(s)**
- ELTR 1020 - Electrical DC/AC Lab **3 credit hour(s)**
- ELTR 1030 - AC Circuitry, Motors, Generators **3 credit hour(s)**

## Term 2

- ELTR 1215 - Blueprint Reading I **4 credit hour(s)**
- ELTR 1210 - Electrical Theory II **4 credit hour(s)**
- ELTR 1220 - Residential Wiring Lab **3 credit hour(s)**
- ELTR 1230 - Residential Electrical Services **3 credit hour(s)**

## Term 3

- ELTR 2005 - Electrical Theory III **4 credit hour(s)**
- ELTR 2015 - Electrical Motor Control Theory **4 credit hour(s)**
- ELTR 2020 - Industrial Motor Control Lab **3 credit hour(s)**
- ELTR 2030 - Industrial Power Distribution **3 credit hour(s)**

## Certificate of Completion in Electrical Trades 42 credit hours

### Electrical Trades (Certificate of Completion), Photovoltaic Installation Concentration

#### School of Applied Technologies (AT)

The Electrical Trades Certificate Program provides students the opportunity to gain the knowledge and technical skills necessary to enter the field of electrical trades. A certificate is obtained by the student after successful completion of three terms and is accepted by the State of New Mexico Construction Industries Division as two years experience toward the four-year experience requirement for the State of New Mexico Journeyman Electrical Certificate (JB98).

Theory and lab courses are designed to be taken together to give students an in-depth understanding of the concepts of electrical trades.

First term students obtain knowledge and hands-on training for personal and tool safety, meter reading, electrical circuitry, electrical formulas, electrical calculations, material identification and AC/DC motor operation and troubleshooting.

Second term students are taught residential blueprint reading, application of the National Electrical Code (NEC), NM Electrical Code (NMEC) and local electrical codes, installation of branch circuits and feeders, residential services, single pole, three and four-way switch circuits, door chime installation, dryer, range and swamp cooler circuitry and conduit bending.

Third term students receive Occupational Safety Hazard Administration (OSHA) compliance safety training, technical skills, power distribution systems, 3-phase services, hazardous locations, commercial blueprint reading, circuitry, 3-phase motor starters, timers, mechanical and hydraulic conduit bending, power threaders, cutting and threading of rigid metal conduit, knock-out punches, hammer-drill operation, powder actuated fasteners, cable installation, wire pulling and application of the NEC.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### Recommended Sequence of Courses

#### Term 1

- ELTR 1005 - Electrical Theory I **4 credit hour(s)**
- ELTR 1015 - Electrical Math I **4 credit hour(s)**

- ELTR 1020 - Electrical DC/AC Lab **3 credit hour(s)**
- ELTR 1030 - AC Circuitry, Motors, Generators **3 credit hour(s)**

## Term 2

- ELTR 1215 - Blueprint Reading I **4 credit hour(s)**
- ELTR 1210 - Electrical Theory II **4 credit hour(s)**
- ELTR 1220 - Residential Wiring Lab **3 credit hour(s)**
- ELTR 1230 - Residential Electrical Services **3 credit hour(s)**

## Term 3

- ELTR 2610 - Photovoltaic Installation Safety **2 credit hour(s)**
- ELTR 2620 - Photovoltaic Theory/Design and Installation **3 credit hour(s)**
- ELTR 2630 - Advanced PV Theory /Design/ Installation/ Maintenance and Commissioning **4 credit hour(s)**
- ELTR 2692 - PV Installation Lab **3 credit hour(s)**

## Certificate of Completion in Electrical Trades Photovoltaic Installation 40 credit hours

### Electrical Trades (Certificate of Completion), Programmable Logic Controls (PLC) Concentration

#### School of Applied Technologies (AT)

The Electrical-Programmable Logic Controls (PLC) Certificate provides students with skills in the electrical industry which includes controller installation, numbering systems, logic fundamentals, basics of programming, intricate industrial wiring, motor controls and troubleshooting.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- ELTR 1005 - Electrical Theory I **4 credit hour(s)**
- ELTR 1015 - Electrical Math I **4 credit hour(s)**
- ELTR 1020 - Electrical DC/AC Lab **3 credit hour(s)**
- ELTR 1030 - AC Circuitry, Motors, Generators **3 credit hour(s)**

##### Term 2

- ELTR 1210 - Electrical Theory II **4 credit hour(s)**
- ELTR 1215 - Blueprint Reading I **4 credit hour(s)**
- ELTR 1220 - Residential Wiring Lab **3 credit hour(s)**
- ELTR 1230 - Residential Electrical Services **3 credit hour(s)**

##### Term 3

- ELTR 2005 - Electrical Theory III **4 credit hour(s)**
- ELTR 2015 - Electrical Motor Control Theory **4 credit hour(s)**
- ELTR 2020 - Industrial Motor Control Lab **3 credit hour(s)**

- ELTR 2030 - Industrial Power Distribution **3 credit hour(s)**

#### Term 4

- ELTR 2210 - Programmable Logic Controller Theory **4 credit hour(s)**
- ELTR 2220 - PLC Installation and Operation **3 credit hour(s)**
- ELTR 2230 - PLC Systems Operation and Troubleshooting **3 credit hour(s)**
- **AAS Mathematics Requirement 3-4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### **Certificate of Completion in Electrical Trades, Programmable Logic Controls (PLC) 58-59 credit hour(s)**

## **Residential Wiring, Certificate of Completion**

### **School of Applied Technologies (AT)**

The Residential Wiring program provides students the opportunity to gain the knowledge and technical skills necessary to enter the electrical trade. A certificate is obtained by the student after successful completion of two terms and is accepted by the State of New Mexico Construction Industries Division as one year of experience toward the two-year experience requirement for the State of New Mexico Residential Wireman's Certificate of Competence.

Residential Wiring emphasizes the applications of the National Electrical Code (NEC), NM State Electrical Code, (NMSEC) and local electrical codes. Students learn electrical theory, material identification and use, Occupational Safety Hazard Administration (OSHA) compliance, residential wiring and services, conduit bending, installation, blueprint reading and electrical troubleshooting. Theory and lab courses are designed to be taken together to give students an in-depth understanding of the concepts of the residential electrical trade. First term students obtain knowledge and hands on training for personal and tool safety, meter reading, electrical circuitry, electrical formulas, electrical calculations, material identification, AC/DC motor operation and troubleshooting. Second term students are taught residential blueprint reading, applications of the NEC, NMSEC and local electrical codes, installation of branch circuits and feeders, residential services, single pole, three-way and four-way switch circuits, door chime installation, dryer and range circuits, swamp cooler circuitry and hand bending of electrical metallic tubing.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### **Recommended Sequence of Courses**

#### Term 1

- ELTR 1005 - Electrical Theory I **4 credit hour(s)**
- ELTR 1015 - Electrical Math I **4 credit hour(s)**
- ELTR 1020 - Electrical DC/AC Lab **3 credit hour(s)**
- ELTR 1030 - AC Circuitry, Motors, Generators **3 credit hour(s)**

#### Term 2

- ELTR 1215 - Blueprint Reading I **4 credit hour(s)**
- ELTR 1210 - Electrical Theory II **4 credit hour(s)**
- ELTR 1220 - Residential Wiring Lab **3 credit hour(s)**
- ELTR 1230 - Residential Electrical Services **3 credit hour(s)**

### **Certificate of Completion in Residential Wiring 28 credit hours**

## **Emergency Medical Services**

# Community EMT, Certificate of Achievement

## School of Health, Wellness & Public Safety (HWPS)

This certificate program is designed for EMTs with at least five years of experience to advance to the level of community EMT.

## Program Proficiencies and Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **Department Approval**
- **HLTH 1001 or a current cardiopulmonary resuscitation (CPR) certificate from a program approved CPR provider and course**
- **Reading & Writing Proficiency 2**

## Recommended Sequence of Courses

### Term 1

- CEMS 1070 - Assessment in Primary Care and Public Health **2 credit hour(s)**
- CEMS 1090 - Community EMT Clinical I **1 credit hour(s)**
- CEMS 2020 - Social Determinants of Health **2 credit hour(s)**
- CEMS 2040 - Cultural Competency **1 credit hour(s)**
- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**

## Community EMT Certificate of Achievement 9 credit hours

# Community Paramedic, Certificate of Completion

## School of Health, Wellness & Public Safety (HWPS)

This certificate program is designed for paramedics with at least five years of experience to advance to the level of community paramedic.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**
- CEMS 2020 - Social Determinants of Health **2 credit hour(s)**
- CEMS 2030 - Community Paramedic Role in Public Health and Primary Care **3 credit hour(s)**
- CEMS 2040 - Cultural Competency **1 credit hour(s)**
- CEMS 2050 - Community Paramedic Role in the Community **2 credit hour(s)**

### Term 2

- CEMS 2110 - Personal Care, Safety and Boundaries **1 credit hour(s)**
- CEMS 2120 - Advanced Patient Assessment **3 credit hour(s)**
- CEMS 2190 - Clinical Experience for the Community Paramedic **5 credit hour(s)**
- CEMS 2999 - Community Paramedic Capstone **1 credit hour(s)**



# Certificate of Completion in Community Paramedic 21 credit hours

## Emergency Medical Services (AAS), Paramedic Concentration

### School of Health, Wellness & Public Safety (HWPS)

EMT-Paramedics provide the highest level of care in the prehospital setting and are currently in high demand. The EMS-Paramedic program's first term courses are typically offered summer and fall term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- Math Proficiency 2
- Reading & Writing Proficiency 2

### Required Sequence of Courses

#### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
  
- EMS 1053 - EMT Basic Theory **6 credit hour(s)**  
**and**
- EMS 1093 - EMT Basic Lab **2 credit hour(s)**  
**and**
- EMS 1190 - EMT Basic Clinical **1 credit hour(s)**  
**or**
- EMS 1412 - Advanced EMT (EMT-I) Theory **6 credit hour(s)**  
**and**
- EMS 1493 - Advanced EMT (EMT-I) Lab **2 credit hour(s)**  
**and**
- EMS 1890 - Advanced EMT (EMT-I) Clinical **2 credit hour(s)\***
  
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**

#### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)\* \***
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

#### Term 3

- EMS 2103 - Human Systems Pathophysiology and Development **3 credit hour(s)**
- EMS 2105 - EMS Program Success Course **3 credit hour(s)**
- EMS 2192 - Drug Calculations Lab **2 credit hour(s)**
- EMS 2207 - Legal Issues and Report Writing **2 credit hour(s)**

#### Term 4

- EMS 2213 - Endocrine and GI/GU Theory **1 credit hour(s)**

- EMS 2217 - Pharmacology Theory **3 credit hour(s)**
- EMS 2223 - Advanced Trauma Theory **3 credit hour(s)**
- EMS 2291 - Paramedic Lab I **2 credit hour(s)**
- EMS 2313 - Neurological Theory **2 credit hour(s)**

### Term 5

- EMS 2303 - Cardiovascular Theory **3 credit hour(s)**
- EMS 2307 - Respiratory Theory **2 credit hour(s)**
- EMS 2390 - Hospital Clinical I **2 credit hour(s)**
- EMS 2393 - Paramedic Lab II **3 credit hour(s)**
- EMS 2513 - Behavioral Emergencies and Communication **1 credit hour(s)**

### Term 6

- EMS 2503 - Pediatric and Gynecology Theory **3 credit hour(s)**
- EMS 2507 - Environmental Theory **3 credit hour(s)**
- EMS 2590 - Hospital Clinical II **1 credit hour(s)**
- EMS 2593 - Paramedic Lab III **2 credit hour(s)**
- EMS 2790 - Capstone Field Experience **6 credit hour(s)**

## **Associate of Applied Science in Emergency Medical Services, Paramedic 67-70 credit hours**

\* EMS 1890 Advanced EMT [EMT-I] Clinical would be taken in Term 2

\*\* MATH 1330 recommended for transfer to UNM

## **Emergency Medical Services (Certificate of Completion), Emergency Room Technician**

### **School of Health, Wellness & Public Safety (HWPS)**

This certificate prepares students for work in hospital emergency rooms as emergency room technicians. It combines courses in Emergency Medical Services and courses in Patient Care Technician to give students the scope of skills needed to be ER technicians.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **Department Approval**
- **Math Proficiency 2**
- **Reading & Writing Proficiency 2**

### **Required Sequence of Courses**

#### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- EMS 1053 - EMT Basic Theory **6 credit hour(s)**
- EMS 1093 - EMT Basic Lab **2 credit hour(s)**
- EMS 1190 - EMT Basic Clinical **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**

#### Term 2

- EMS 1412 - Advanced EMT (EMT-I) Theory **6 credit hour(s)**
- EMS 1493 - Advanced EMT (EMT-I) Lab **2 credit hour(s)**

### Term 3

- EMS 1890 - Advanced EMT (EMT-I) Clinical **2 credit hour(s)**

### Term 4

- PCT 1020 - Patient Care Technician **4 credit hour(s)\* \***
- PCT 1090 - Patient Care Tech Clinical Experience **2 credit hour(s)\* \***
- PCT 1092 - Patient Care Technician Lab **3 credit hour(s)\* \***

## **Emergency Medical Services, Emergency Room Technician Certificate of Completion 35-36 credit hours**

\* MATH 1315 - College Algebra recommended if planning on transferring to a 4-year paramedic degree at UNM.

\*\* Students may take the PCT Program courses upon completion of the EMT Basic courses.

## **Emergency Medical Services (Certificate of Completion), Intermediate Concentration**

### **School of Health, Wellness & Public Safety (HWPS)**

The EMT-Intermediate program offers additional skills and training for EMS personnel. These courses may be taken by students wishing to gain additional medical skills, but not wishing to pursue a paramedic license. These courses may also provide additional training prior to entrance into the paramedic program. These courses are recommended for students with field experience as an EMT. This is a recommended pre-requisite to the paramedic program.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Required Sequence of Courses**

#### Required Courses

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- EMS 1053 - EMT Basic Theory **6 credit hour(s)**
- EMS 1093 - EMT Basic Lab **2 credit hour(s)**
- EMS 1190 - EMT Basic Clinical **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**

### Term 1

- EMS 1412 - Advanced EMT (EMT-I) Theory **6 credit hour(s)**
- EMS 1493 - Advanced EMT (EMT-I) Lab **2 credit hour(s)**

### Term 2

- EMS 1890 - Advanced EMT (EMT-I) Clinical **2 credit hour(s)**

## **Emergency Medical Services - Intermediate, Certificate of Completion 26-27 credits**

## hours

\* MATH 1315 - College Algebra recommended if planning on transferring to a 4-year degree.

## Emergency Medical Technician (EMT-B), Certificate of Achievement

### School of Health, Wellness & Public Safety (HWPS)

EMT-Basics provide entry-level of care in the prehospital setting. The EMT-Basic level of training is required for students wishing to pursue EMT-Intermediate or EMT-Paramedic level training.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Courses

- EMS 1053 - EMT Basic Theory **6 credit hour(s)**
- EMS 1093 - EMT Basic Lab **2 credit hour(s)**
- EMS 1190 - EMT Basic Clinical **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**

## Certificate of Achievement in Emergency Medical Technician-Basic (EMT-B) 13 credit hours

## First Responder

### School of Health, Wellness & Public Safety (HWPS)

Provides classroom and laboratory instruction needed to assist in patient emergencies in the workplace and non-transport settings. Some fire services allow First Responder certification as a minimum requirement for employment; most prehospital EMS services require EMT-Basic licensure. Includes instruction on preparatory topics, airway management, patient assessment, medical emergencies, trauma emergencies, pediatric care and EMS operations. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM First Responder Scope of Practice.

This certificate does not satisfy any pre- or corequisite coursework requirements of any other level of EMS training at CNM.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### Courses

These courses are **NOT** a pre- or corequisite for any other level of EMS training at CNM.

- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- EMS 1001 - EMS First Responder Theory **2 credit hour(s)**
- EMS 1091 - EMS First Responder Lab **1 credit hour(s)**

## Engineering

## Engineering, Associate of Science

### School of Math, Science & Engineering (MSE)

The engineering degree includes foundation courses in math and the sciences, introducing the concepts and methods of engineering. The associate degree is designed as the first two years of a bachelor's degree in engineering and graduates are encouraged to continue their studies in a specified area of engineering at a four-year institution. Students planning to transfer to a bachelor of science degree program are advised to refer to the catalog of their intended transfer institution before making course selections.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- (MATH 1410 and MATH 1415) or MATH 1530
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**

### Term 2

- CSCI 1151 - Introduction to Programming for Non-Majors of Computer Science **4 credit hour(s)**
- **or**  
CSCI 1153 - Programming in Matlab **4 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
- PHYS 1792 - Calculus-Based Physics I Laboratory **1 credit hour(s)**

### Term 3

- MATH 2710 - Calculus III **4 credit hour(s)**
- PHYS 1810 - Calculus-Based Physics II **4 credit hour(s)**
- PHYS 1892 - Calculus-Based Physics II Laboratory **1 credit hour(s)**
- **Program Approved Elective 3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- ECON 2200 - Macroeconomics **3 credit hour(s)**
- ENG 2219 - Technical Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- MATH 2910 - Applied Ordinary Differential Equations **3 credit hour(s)**
- **Program Approved Elective 3-4 credit hour(s)**

## Associate of Science in Engineering 63 - 65 credit hours

### Program Approved Electives

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- BIO 1010 - Biology for Non-Majors **3 credit hour(s)**

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
  
- CAD 1001 - Basics of CAD **1 credit hour(s)\***  
**and**
- CM 1205 - Computer Aided Construction Drafting/Engineering **3 credit hour(s)\***
  
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- CHEM 2710 - Organic Chemistry I **3 credit hour(s)**
- CHEM 2792 - Organic Chemistry I Laboratory **1 credit hour(s)**
- CM 1105 - Construction Detailing **3 credit hour(s)**
- CM 1110 - Construction Materials and Techniques **3 credit hour(s)**
- CM 1210 - Mechanical Electrical Systems and Construction **3 credit hour(s)**
  
- CM 1305 - Construction Estimating **3 credit hour(s)\***  
**and**
- CM 2115 - Computerized Estimating Techniques **3 credit hour(s)\***
  
- CM 2105 - Construction Scheduling **3 credit hour(s)\***  
**and**
- CM 2220 - Computerized Project Management and Scheduling **3 credit hour(s)\***
  
- CM 2205 - Construction Layout and Land Surveying **3 credit hour(s)**
- ENGR 1010 - Survey of Engineering Fields **1 credit hour(s)**
- ENGR 2088 - Engineering Specialty **1-16 credit hour(s)\* \***
- ENGR 2710 - Thermodynamics **3 credit hour(s)**
- ENGR 2810 - Engineering Statics **3 credit hour(s)**
- ENGR 2815 - Engineering Dynamics **3 credit hour(s)**
- ENGR 2910 - Circuit Analysis I **3 credit hour(s)**
- ENGR 2915 - Circuit Analysis II **3 credit hour(s)**
- EPS 1101 - Introduction to Geology **3 credit hour(s)**
- MATH 2810 - Applied Linear Algebra **3 credit hour(s)**
- PHYS 2710 - Calculus-Based Physics III **4 credit hour(s)**

**\* Students must take both of these courses in order for them to transfer to UNM. Please see CNM's Engineering Transfer agreement with UNM to understand specifically how these courses transfer.**

**\*\* This course is used to transfer approved courses from other colleges and universities.**

## English

### English, Associate of Arts

#### School of Communication, Humanities & Social Sciences (CHSS)

This program is designed to meet the requirements for an Associate of Arts in English from CNM and prepare a student to obtain a Bachelor of Arts in English from a 4-year college or university.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**

### Term 3

- **Elective 3 credit hour(s)**
- ENG 2250 - Analysis of Literature **3 credit hour(s)**
  
- ENG 2262 - Survey of Earlier World Literature **3 credit hour(s)**  
or
- ENG 2284 - Survey of Earlier English Literature **3 credit hour(s)**  
or
- ENG 2287 - Earlier American Literature **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

### Term 4

- **Elective 3 credit hour(s)**
  
- ENG 2263 - Survey of Later World Literature **3 credit hour(s)**  
or
- ENG 2285 - Survey of Later English Literature **3 credit hour(s)**  
or
- ENG 2288 - Later American Literature **3 credit hour(s)**
  
- **Program Approved Elective 3 credit hour(s)**

- **Social/Behavioral Sciences Requirement 3 credit hour(s)**

## **Associate of Arts in English 60-61 credit hours**

This information is meant to serve as a general guide for students intending to major in English. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

### **Program Approved Electives**

- ENG 2210 - Film as Literature **3 credit hour(s)**
- ENG 2219 - Technical Writing **3 credit hour(s)**
- ENG 2220 - Expository Writing **3 credit hour(s)**
- ENG 2221 - Creative Writing: Fiction **3 credit hour(s)**
- ENG 2222 - Creative Writing: Poetry **3 credit hour(s)**
- ENG 2240 - Traditional Grammar **3 credit hour(s)**
- ENG 2262 - Survey of Earlier World Literature **3 credit hour(s)**
- ENG 2263 - Survey of Later World Literature **3 credit hour(s)**
- ENG 2282 - Modern Latin American Literature **3 credit hour(s)**
- ENG 2284 - Survey of Earlier English Literature **3 credit hour(s)**
- ENG 2285 - Survey of Later English Literature **3 credit hour(s)**
- ENG 2287 - Earlier American Literature **3 credit hour(s)**
- ENG 2288 - Later American Literature **3 credit hour(s)**

## **Environmental Planning and Design**

### **Environmental Planning and Design, Associate of Arts**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

Provides students a pathway toward completing the Bachelor of Arts in Environmental Planning, and Design, one of two bachelor's degrees offered in UNM's School of Architecture and Planning. Includes the study of design, planning, and sustainability.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hours**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Social/Behavioral Sciences Requirement 3 credit hour(s)\***

#### **Term 2**

- ARCH 1121 - Introduction to Architecture **3 credit hour(s)**
- CRP 1181 - Introduction to Environmental Problems **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**



- **Modern Language Elective 4 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
**or**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- CRP 1165 - Introduction to Community and Regional Planning **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

**Program Approved Electives 12 credit hour(s)**

## **Associate of Arts in Environmental Planning and Design 60-61 credit hours**

\* UNM requires PSY 1105 or SOC 1101.

### Program Approved Electives

#### Community and Regional Planning Core

3 credit hours recommended

- CRP 2265 - Sustainable Community Planning Methods **3 credit hour(s)**
- ECON 2200 - Macroeconomics **3 credit hour(s)**
- ECON 2201 - Microeconomics **3 credit hour(s)**
- PSY 2200 - Statistical Principles **3 credit hour(s)**

#### Design Core

3 credit hours recommended

- ARCH 1109 - Introduction to Architectural Studio **3 credit hour(s)**
- ARCH 1111 - Architectural Graphics I **3 credit hour(s)**
- ARTH 2250 - Modern Art **3 credit hour(s)**

#### Ethics Core

3 credit hours recommended

- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2268 - Media Theories **3 credit hour(s)**
- CST 1182 - Environment, Science & Technology **3 credit hour(s)**
- PHIL 2202 - Modern Philosophy **3 credit hour(s)**
- PHIL 2245 - Business Ethics **3 credit hour(s)**
- PHIL 2246 - Environmental Ethics **3 credit hour(s)**
- PHIL 2247 - Biomedical Ethics **3 credit hour(s)**
- PHIL 2248 - Ethics of Technology **3 credit hour(s)**

#### Physical World Core

3 credit hours recommended

- GEOG 1950 - Humans' Role in Changing the Face of the Earth **3 credit hour(s)**
- SUST 1134 - Introduction to Sustainability: Environment, Society, and Economy **3 credit hour(s)**

## Social and Political Core

3 credit hours recommended

- PSCI 2270 - Introduction to Public Policy **3 credit hour(s)**
- PSCI 2280 - Introduction to Political Analysis **3 credit hour(s)**

## Exercise Science and Wellness

### Exercise Science and Wellness, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

This program of study is designed for students who are seeking a high-level education as a personal trainer and/or who plan to transfer to a four-year institution to pursue a baccalaureate degree in Physical Education, Exercise Physiology, Kinesiology, and Health & Wellness. The program combines a broad foundation in the liberal arts and sciences with technical courses in the emerging and expanding field of Exercise Science.

Graduates of the program will be encouraged to sit for exams to earn nationally recognized certifications as personal trainers (CPT) and/or group exercise instructors (i.e. ACSM, AFAA, NSCA), providing a beginning credential for those who choose to seek gainful employment as Personal Trainers or Fitness Instructors at local health clubs and fitness centers.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- BIO 1310 - Human Anatomy and Physiology for Non-Majors **3 credit hour(s)**
- BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory **1 credit hour(s)**
- FITT 1120 - Principles of Fitness and Wellness **3 credit hour(s)**
- FITT 1210 - Group Exercise Leadership I **2 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Program Approved Elective 1 credit hour(s)**

#### Term 2

- **AAS Math Requirement 3-4 credit hour(s)\***
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
- FITT 1010 - Foundations of Exercise Science **3 credit hour(s)**
- FITT 1072 - Kinesiology **3 credit hour(s)**
  
- NUTR 1020 - Sports Nutrition **3 credit hour(s)**  
or
- NUTR 2110 - Human Nutrition **3 credit hour(s)**
  
- **Program Approved Elective 1 credit hour(s)**

#### Term 3

- BA 1101 - Introduction to Business **3 credit hour(s)**  
**or**
- BA 1105 - Introduction to Entrepreneurship **3 credit hour(s)**
  
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- FITT 1572 - Fitness Assessment and Exercise Prescription **3 credit hour(s)**
  
- FITT 2020 - Fundamentals of Yoga Instruction **2 credit hour(s)**  
**or**
- FITT 2210 - Group Exercise Leadership II **2 credit hour(s)**  
**or**
- FITT 2410 - Practical Application of Personal Training Skills **2 credit hour(s)**
  
- **Human Relations Requirement 3 credit hour(s)\* \***
- **Program Approved Elective 1 credit hour(s)**

#### Term 4

- FITT 1090 - Fitness Technician Practicum **3 credit hour(s)**
- FITT 1575 - Exercise Prescription for Special Populations **3 credit hour(s)**
- FITT 2510 - Stress Management **3 credit hour(s)**
- FITT 2610 - Prevention and Treatment of Athletic Injuries **3 credit hour(s)**
- FITT 2620 - Weight Management **3 credit hour(s)**
- **Program Approved Elective 1 credit hour(s)**

### **Associate of Applied Science in Exercise Science and Wellness 65-66 credit hours**

\* **MATH 1310 - Intermediate Algebra** recommended for transfer preparation

\*\* **PSY 1105 - Introduction to Psychology** recommended

\*\*\* **FITT 1593 - Hatha Yoga I** recommended if planning to take FITT 2020 in Term 3

#### Fitness Elective Courses

- FITT 1092 - Cardio Kick Boxing **1 credit hour(s)**
- FITT 1093 - Weight Training for Women **1 credit hour(s)**
- FITT 1096-1996 - Special Topics **1-6 credit hour(s)**
- FITT 1097 - Independent Study **1-6 credit hour(s)**
- FITT 1192 - Body Sculpting **1 credit hour(s)**
- FITT 1193 - Beginning Step Aerobics **1 credit hour(s)**
- FITT 1393 - Flexibility Training **1 credit hour(s)**
- FITT 1410 - Fireline Fitness **2 credit hour(s)**
- FITT 1492 - Step/Circuit Combo **1 credit hour(s)**
- FITT 1493 - Fit Ball Training **1 credit hour(s)**
- FITT 1592 - Step/Kick Combo **1 credit hour(s)**
- FITT 1593 - Hatha Yoga I **1 credit hour(s) \*\*\***
- FITT 1693 - Core Fitness I **1 credit hour(s)**
- FITT 1792 - Physical Fitness I **1 credit hour(s)**
- FITT 1793 - Core Yoga **1 credit hour(s)**
- FITT 1892 - Fitness for Older Adults **1 credit hour(s)**

- FITT 1893 - Healing Hatha Yoga Stretch and Breath **1 credit hour(s)**
- FITT 1992 - Circuit Training **1 credit hour(s)**
- FITT 1993 - Ultimate Frisbee **1 credit hour(s)**
- FITT 1994 - Running Conditioning **1 credit hour(s)**
- FITT 2092 - Physical Fitness II **1 credit hour(s)**
- FITT 2093 - Extreme Conditioning **1 credit hour(s)**
- FITT 2096-2996 - Special Topics **1-6 credit hour(s)**
- FITT 2292 - Fitness Yoga **1 credit hour(s)**
- FITT 2293 - Step Challenge **1 credit hour(s)**
- FITT 2392 - Pilates-Style Mat Training **1 credit hour(s)**

## Fitness, Certificate of Completion

### School of Health, Wellness & Public Safety (HWPS)

Students will study exercise physiology, kinesiology, nutrition, fitness assessment, exercise prescription and the business aspects of personal fitness training. Students will also be instructed in the Job Analysis Task List of the National Strength and Conditioning Association Certified Personal Trainer certification exam, the Knowledge, Skills and Abilities of the American College of Sports Medicine Health/Fitness Instructor certification exam and the Basic Exercise Standards and Guidelines of the Aerobics and Fitness Association of America's Primary Certification group for fitness leaders. Courses include classroom and lab time.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2 \*

### Recommended Sequence of Courses

#### Required Program Courses

- BIO 1310 - Human Anatomy and Physiology for Non-Majors **3 credit hour(s)**
- BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory **1 credit hour(s)**

#### Term 1

This program's first term courses are offered in the fall and spring terms only. This may delay a student's program start date. Please check with an Academic Coach for more information.

- BA 1101 - Introduction to Business **3 credit hour(s)**  
**or**
- BA 1105 - Introduction to Entrepreneurship **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
**or**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
- FITT 1010 - Foundations of Exercise Science **3 credit hour(s)**
- FITT 1072 - Kinesiology **3 credit hour(s)**
- **Program Approved Elective 1 credit hour(s)**

#### Term 2

- FITT 1210 - Group Exercise Leadership I **2 credit hour(s)**
- FITT 1572 - Fitness Assessment and Exercise Prescription **3 credit hour(s)**

- FITT 1575 - Exercise Prescription for Special Populations **3 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
  
- NUTR 1020 - Sports Nutrition **3 credit hour(s)**  
**or**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**

### Term 3

- FITT 1090 - Fitness Technician Practicum **3 credit hour(s)**

## Certificate of Completion in Fitness **32 credit hours**

\* **ENG 1101 - College Writing recommended**

### Program Approved Electives

- CSE 1101 - College Success **3 credit hour(s)**
- FITT 1092 - Cardio Kick Boxing **1 credit hour(s)**
- FITT 1093 - Weight Training for Women **1 credit hour(s)**
- FITT 1097 - Independent Study **1-6 credit hour(s)**
- FITT 1192 - Body Sculpting **1 credit hour(s)**
- FITT 1193 - Beginning Step Aerobics **1 credit hour(s)**
- FITT 1393 - Flexibility Training **1 credit hour(s)**
- FITT 1492 - Step/Circuit Combo **1 credit hour(s)**
- FITT 1493 - Fit Ball Training **1 credit hour(s)**
- FITT 1592 - Step/Kick Combo **1 credit hour(s)**
- FITT 1593 - Hatha Yoga I **1 credit hour(s)**
- FITT 1693 - Core Fitness I **1 credit hour(s)**
- FITT 1792 - Physical Fitness I **1 credit hour(s)**
- FITT 1793 - Core Yoga **1 credit hour(s)**
- FITT 1892 - Fitness for Older Adults **1 credit hour(s)**
- FITT 1893 - Healing Hatha Yoga Stretch and Breath **1 credit hour(s)**
- FITT 1992 - Circuit Training **1 credit hour(s)**
- FITT 1993 - Ultimate Frisbee **1 credit hour(s)**
- FITT 2092 - Physical Fitness II **1 credit hour(s)**
- FITT 2093 - Extreme Conditioning **1 credit hour(s)**
- FITT 2096-2996 - Special Topics **1-6 credit hour(s)**
- FITT 2292 - Fitness Yoga **1 credit hour(s)**
- FITT 2392 - Pilates-Style Mat Training **1 credit hour(s)**

## Film Technician

### Construction for Film, Certificate of Completion

#### School of Applied Technologies (AT)

This certificate combines the first terms of the Film Technician and Carpentry programs to teach students the fundamental skills to work successfully in a motion picture art department. Students completing this certificate may choose to continue on to complete the Film Technician Certificate, the Post-Production certificate, or Film Technician A.A.S. degree.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- FILM 1001 - Introduction to Film and Media Workflow **3 credit hour(s)**
- FILM 1003 - Basic Film/Media Production **3 credit hour(s)**
- FILM 1015 - Film On-Set **4 credit hour(s)**
- FILM 1110 - Film Location **4 credit hour(s)**

### Term 2

- CARP 1005 - Carpentry Blueprint Reading I **4 credit hour(s)**
- CARP 1030 - Carpentry Theory I **3 credit hour(s)**
- CARP 1320 - Carpentry Fundamentals **3 credit hour(s)**
- FILM 2001 - Art Department **3 credit hour(s)**
- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**

## Certificate of Completion in Construction for Film 28 credit hours

## Film Crew Technician, Certificate of Completion

### School of Applied Technologies (AT)

The Film Crew Technician Program Certificate is designed as a two-term cohort program. The first term courses will provide students with an overview of the moving image production process while affording them an opportunity for hands-on experiences. The second term focuses on development of technical and production skills in one or more “below the line” film craft areas, including art, hair, make-up, wardrobe, craft services, grip, electric, sound, locations, and production office.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- FILM 1001 - Introduction to Film and Media Workflow **3 credit hour(s)**
- FILM 1003 - Basic Film/Media Production **3 credit hour(s)**
- FILM 1015 - Film On-Set **4 credit hour(s)**
- FILM 1110 - Film Location **4 credit hour(s)**

### Term 2

- FILM 1210 - Production Planning **3 credit hour(s)**
- FILM 1220 - Pre-Production **4 credit hour(s)**
- FILM 1230 - Production **4 credit hour(s)**
- FILM 1240 - Post-Production **3 credit hour(s)**

## Certificate of Completion in Film Crew Technician 28 credit hours

# Film Technology (AAS)

## School of Applied Technologies (AT)

The Film Crew Technician A.A.S. degree is designed as a five-term cohort program. The Film Technician and Post-Production Technician certificates are embedded in the first 3 terms of the degree; terms 4 and 5 present more advanced topics including directing and art department. Students completing the degree are well-suited for employment in one or more “below the line” film craft areas, including art, hair, make-up, wardrobe, craft services, grip, electric, sound, locations, production office or post-production. Students may also choose to transfer to a 4-year program.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- FILM 1001 - Introduction to Film and Media Workflow **3 credit hour(s)**
- FILM 1003 - Basic Film/Media Production **3 credit hour(s)**
- FILM 1015 - Film On-Set **4 credit hour(s)**
- FILM 1110 - Film Location **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- CIS 1310 - Introduction to Digital Media **3 credit hour(s)**
- FILM 1210 - Production Planning **3 credit hour(s)**
- FILM 1220 - Pre-Production **4 credit hour(s)**
- FILM 1230 - Production **4 credit hour(s)**
- FILM 1240 - Post-Production **3 credit hour(s)**

### Term 3

- ENG 1101 - College Writing **3 credit hour(s)**
- FILM 1315 - Storyboarding **2 credit hour(s)**
- FILM 1325 - Camera Operation **2 credit hour(s)**
- FILM 1335 - Post-Production Editing **3 credit hour(s)**
- FILM 1345 - Sound Recording and Design **2 credit hour(s)**
- FILM 1390 - Professional Portfolio **2 credit hour(s)**

### Term 4

- FILM 1004 - Shooting Your Story **3 credit hour(s)**
  
- FILM 2001 - Art Department **3 credit hour(s)**  
or
- FILM 2002 - Directing for the Camera **3 credit hour(s)**
  
- FILM 2010 - Survey of Films and Film Industry **3 credit hour(s)**  
or
- ARTH 2250 - Modern Art **3 credit hour(s)**  
or

- ENG 2210 - Film as Literature **3 credit hour(s)**

## Term 5

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- FILM 2005 - Advanced Film Editing **3 credit hour(s)**
- PSY 2233 Psychology and Film or **Human Relations Requirement 3 credit hour(s)\***

## Associate in Applied Science in Film Technology 66-67 credit hours

\*PSY 2233 is recommended for its Film-related subject matter.

## Post Production Technician, Certificate of Completion

### School of Applied Technologies (AT)

The Post Production Technician Program Certificate is designed as a two-term 31 credit cohort program. The first term courses will provide students with an overview of the moving image production process while affording them an opportunity for hands-on experiences. The second term focuses on development of basic technical and production skills which could lead to careers in many areas of developing visual media production. Skill areas include: post-production editing, sound capture and design, special effects, camera operation and storyboarding. The final course helps students develop a professional media portfolio in preparation for entering the workforce.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

### Recommended Sequence of Courses

#### Term 1

- FILM 1001 - Introduction to Film and Media Workflow **3 credit hour(s)**
- FILM 1003 - Basic Film/Media Production **3 credit hour(s)**
- FILM 1015 - Film On-Set **4 credit hour(s)**
- FILM 1110 - Film Location **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- CIS 1310 - Introduction to Digital Media **3 credit hour(s)**
- FILM 1315 - Storyboarding **2 credit hour(s)**
- FILM 1325 - Camera Operation **2 credit hour(s)**
- FILM 1335 - Post-Production Editing **3 credit hour(s)**
- FILM 1345 - Sound Recording and Design **2 credit hour(s)**
- FILM 1390 - Professional Portfolio **2 credit hour(s)**

## Certificate of Completion in Post Production Technician 31 credit hours

## Fine Arts

### Bench Jewelry, Certificate of Achievement

#### School of Communication, Humanities & Social Sciences (CHSS)

Upon completion of the certificate in Bench Jewelry, students will demonstrate understanding of basic non-ferrous metallurgy. Repair



jewelry mechanisms, chains, and stone settings. Students will have experience in designing and fabricating personal jewelry objects. Students will be prepared for employment in areas related to jewelry design, sales, fabrication, repair and manufacturing.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Program Approved Electives

- ARTS 1106 - Drawing I **3 credit hour(s)**
  
- ARTS 1122 - Three-Dimensional Design **3 credit hour(s)**  
**or**
- ARTS 1126 - Art Practices II **3 credit hour(s)**  
**or**
- RPID 1005 - 3 Dimensional CAD **3 credit hour(s)**
  
- ARTS 2208 - Jewelry/Small Metals I **3 credit hour(s)**
- ARTS 2218 - Jewelry/Small Metals II **3 credit hour(s)**
- ARTS 2228 - Jewelry Bench Techniques **3 credit hour(s)**

## Bench Jewelry, Certificate of Achievement 15 credit hours

## Fine Arts (AA), Art History Concentration

### School of Communication, Humanities & Social Sciences (CHSS)

The Fine Arts program offers a rich variety of courses which are designed to acquaint students with the range of visual arts, elements of drawing and design, the history of art, as well as the important role which art and architecture play in society.

See Recommended Sequence of Courses

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ARTH 2201 - History of Art I **3 credit hour(s)**
- **Program Approved Art Studio Elective 3 credit hours**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)\***
- **Mathematics Requirement 3-4 credit hour(s) \*\***

### Term 2

- ARTH 2202 - History of Art II **3 credit hour(s)**
- **Program Approved Art Studio Elective 3 credit hours \*\*\***

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Fine Arts Elective 3 credit hours \* \* \* \***
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Program Approved Art History Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Art History Elective 6 credit hour(s)**

## Associate of Arts in Fine Arts, Art History Concentration 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Art History. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\* HIST 1101 or HIST 1102 recommended for UNM transfer

\*\* MATH 1340 recommended

\*\*\* ARTS 1125 recommended for UNM transfer

\*\*\*\* THEA or MUS courses recommended for UNM transfer

### Program Approved Art History Electives

- ARTH 2096-2996 - Special Topics **3 credit hour(s)**
- ARTH 2200 - Women in Art **3 credit hour(s)**
- ARTH 2250 - Modern Art **3 credit hour(s)**
- ARTH 2251 - Art of the American Southwest **3 credit hour(s)**
- ARTH 2260 - Architectural History: Ancient through Modern **3 credit hour(s)**

### Program Approved Art Studio Electives

- **Any ARTS Course (except ARTS 1102)**

## Fine Arts (AA), Art Studio Concentration

### School of Communication, Humanities & Social Sciences (CHSS)

The Fine Arts program offers a rich variety of courses which are designed to acquaint students with the range of visual arts, elements of drawing and design, the history of art, as well as the important role which art and architecture play in society.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ARTS 1106 - Drawing I **3 credit hour(s)**
- ARTS 1121 - Two-Dimensional Design **3 credit hour(s)**  
or
- ARTS 1125 - Art Practices I **3 credit hour(s) (Recommended) \***
- ENG 1101 - College Writing **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)\* \***
- **Social Behavioral Science Requirement 3 credit hour(s)**

### Term 2

- ARTS 1122 - Three-Dimensional Design **3 credit hour(s)**  
or
- ARTS 1126 - Art Practices II **3 credit hour(s) (Recommended) \***
- **Program Approved Art Studio Elective 3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Art History Elective 6 credit hour(s)**
- **Program Approved Art Studio Elective 3 credit hour(s)**

### Term 4

- ARTS 2210 - Art Career Concerns **3 credit hour(s)**  
or
- ARTS 2212 - Advanced Portfolio Development **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)\* \* \***
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Art Studio Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Arts in Fine Arts, Art Studio Concentration 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Art Studio. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\* ARTS 1125 and ARTS 1126 recommended for transfer.

\* \* MATH 1340 recommended.

\*\*\* HIST 1101 or HIST 1102 recommended.

## Program Approved Electives

### Art History Program Approved Electives

- ARTH 2201 - History of Art I **3 credit hour(s)**
- ARTH 2202 - History of Art II **3 credit hour(s)**
- ARTH 2250 - Modern Art **3 credit hour(s)**
- ARTH 2251 - Art of the American Southwest **3 credit hour(s)**
- ARTH 2260 - Architectural History: Ancient through Modern **3 credit hour(s)**

### Art Studio Program Approved Electives

- ARTS 1130 - Digital Studio Fundamentals **3 credit hour(s)**
- ARTS 1135 - Introduction to Digital Photography **3 credit hour(s)**
- ARTS 1168 - Ceramics I **3 credit hour(s)**
- ARTS 2204 - Life Drawing I **3 credit hour(s)**
- ARTS 2205 - Drawing II **3 credit hour(s)**
- ARTS 2206 - Printmaking I **3 credit hour(s)**
- ARTS 2207 - Painting I **3 credit hour(s)**
- ARTS 2208 - Jewelry/Small Metals I **3 credit hour(s)**
- ARTS 2211 - Portraiture **3 credit hour(s)**
- ARTS 2214 - Life Drawing II **3 credit hour(s)**
- ARTS 2216 - Printmaking II **3 credit hour(s)**
- ARTS 2217 - Painting II **3 credit hour(s)**
- ARTS 2218 - Jewelry/Small Metals II **3 credit hour(s)**
- ARTS 2228 - Jewelry Bench Techniques **3 credit hour(s)**
- ARTS 2268 - Ceramics II **3 credit hour(s)**

## Fire Science

### Fire Science (AAS), Emergency Medical Services Concentration

#### School of Health, Wellness & Public Safety (HWPS)

The fire service career field is expanding due to an emphasis on fire safety and fire prevention, which has created a need for trained, skilled, and knowledgeable firefighters. The Fire Science program leads to an Associate of Applied Science Degree in Fire Science that gives the student the educational background needed for employment in a fire service career. It may also help achieve a promotion after gaining employment.

Students in the Fire Science program will benefit from faculty who bring up-to-date industry experience into the classroom. The curriculum has been validated by several subject matter experts throughout the country and is based on a national model developed by the National Fire Academy (NFA). The curriculum includes Fire Behavior and Combustion, Building Construction for Fire Protection, Fire Protection Hydraulics and Water Supply, Fire Protection Systems, Introduction to Fire Science, Wildland Firefighting, Fire Inspections, Fire Administration, Safety and Survival, Tactics and Strategy and Hazardous Materials.

The Fire Science program has three concentrations that provide graduates with a sense of community service and what it takes to be successful in the fire service. The wildland concentration provides students the opportunity to specialize in wildland firefighting. The structural concentration provides students the opportunity to specialize in structural firefighting. The Emergency Medical Services (EMS) concentration provides students the opportunity to specialize in advanced medical training that will be helpful in structural and wildland firefighting.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**

- **Math Proficiency 2**
- **Reading & Writing Proficiency 2**

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- FS 1010 - Introduction to Fire Science **3 credit hour(s)**
- FS 1610 - Principles of Fire and Emergency Services Safety and Survival **3 credit hour(s)**
- FITT 1410 - Fireline Fitness **2 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- COMM 1130 - Public Speaking **3 credit hour(s)**
- EMS 1053 - EMT Basic Theory **6 credit hour(s)**
- EMS 1093 - EMT Basic Lab **2 credit hour(s)**
- EMS 1190 - EMT Basic Clinical **1 credit hour(s)**

### Term 3

- EMS 1412 - Advanced EMT (EMT-I) Theory **6 credit hour(s)**
- EMS 1493 - Advanced EMT (EMT-I) Lab **2 credit hour(s)**
- FS 1512 - Building Construction **3 credit hour(s)**
- FS 1820 - Hazardous Materials Awareness and Operations **3 credit hour(s)**
  
- SOC 2211 - Social Problems **3 credit hour(s)**  
or
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**

### Term 4

- EMS 1890 - Advanced EMT (EMT-I) Clinical **2 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**  
or
- ENG 1119 - Technical Communications **3 credit hour(s)**
  
- FS 1504 - Wildland Firefighting **3 credit hour(s)**
- FS 2402 - Managing Community Fire Protection **3 credit hour(s)**
- FS 2422 - Fire Behavior and Combustion **3 credit hour(s)**
- FS 2999 - Fire Science Capstone Course **1 credit hour(s)**
- **Fire Science (FS) Elective(s) 3 credit hour(s) \*\***

## Associate of Applied Science in Fire Science, Emergency Medical Services Concentration 65-66 credit hours

\* MATH 1315 - College Algebra is recommended

\*\* Any FS course not required in this concentration

# Fire Science (AAS), Structural Firefighting Concentration

## School of Health, Wellness & Public Safety (HWPS)

The fire service career field is expanding due to an emphasis on fire safety and fire prevention, which has created a need for trained, skilled, and knowledgeable firefighters. The Fire Science program leads to an Associate of Applied Science Degree in Fire Science that gives the student the educational background needed for employment in a fire service career. It may also help achieve a promotion after gaining employment.

Students in the Fire Science program will benefit from faculty who bring up-to-date industry experience into the classroom. The curriculum has been validated by several subject matter experts throughout the country and is based on a national model developed by the National Fire Academy (NFA). The curriculum includes Fire Behavior and Combustion, Building Construction for Fire Protection, Fire Protection Hydraulics and Water Supply, Fire Protection Systems, Introduction to Fire Science, Wildland Firefighting, Fire Inspections, Fire Administration, Safety and Survival, Tactics and Strategy and Hazardous Materials.

The Fire Science program has three concentrations that provide graduates with a sense of community service and what it takes to be successful in the fire service. The wildland concentration provides students the opportunity to specialize in wildland firefighting. The structural concentration provides students the opportunity to specialize in structural firefighting. The Emergency Medical Services (EMS) concentration provides students the opportunity to specialize in advanced medical training that will be helpful in structural and wildland firefighting.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- **Math Proficiency 2**
- **Reading & Writing Proficiency 2**

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- FS 1010 - Introduction to Fire Science **3 credit hour(s)**
- FS 1610 - Principles of Fire and Emergency Services Safety and Survival **3 credit hour(s)**
- **FS Elective(s) 3 credit hour(s) \***
- FITT 1410 - Fireline Fitness **2 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)\* \***
- COMM 1130 - Public Speaking **3 credit hour(s)**
  
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or
- ENG 2219 - Technical Writing **3 credit hour(s)**
  
- FS 1504 - Wildland Firefighting **3 credit hour(s)**
- FS 1512 - Building Construction **3 credit hour(s)**

### Term 3

- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
and
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**

or

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- and
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
  
- FS 1820 - Hazardous Materials Awareness and Operations **3 credit hour(s)**
- FS 2001 - Fire Protection Systems **3 credit hour(s)**
- FS 2422 - Fire Behavior and Combustion **3 credit hour(s)**
- FS 2640 - Legal Aspects of Fire Science **3 credit hour(s)**

#### Term 4

- FS 2008 - Fire Protection Hydraulics and Water Supply **3 credit hour(s)**
- FS 2402 - Managing Community Fire Protection **3 credit hour(s)**
- FS 2416 - Command Strategy and Tactics I **1 credit hour(s)**
- FS 2417 - Command Strategy and Tactics II **1 credit hour(s)**
- FS 2418 - Command Strategy and Tactics III **1 credit hour(s)**
- FS 2814 - Facilities Inspection **3 credit hour(s)**
- FS 2999 - Fire Science Capstone Course **1 credit hour(s)**
  
- SOC 2211 - Social Problems **3 credit hour(s)**
- or
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**

### **Associate of Applied Science in Fire Science, Structural Firefighting Concentration 64-65 credit hours**

\* Any FS course not required in this concentration\* \* (MATH 1315 - College Algebra recommended if planning on transferring to a 4-year degree)

### **Fire Science (AAS), Wildland Firefighting Concentration**

#### **School of Health, Wellness & Public Safety (HWPS)**

The fire service career field is expanding due to an emphasis on fire safety and fire prevention, which has created a need for trained, skilled, and knowledgeable firefighters. The Fire Science program leads to an Associate of Applied Science Degree in Fire Science that gives the student the educational background needed for employment in a fire service career. It may also help achieve a promotion after gaining employment.

Students in the Fire Science program will benefit from faculty who bring up-to-date industry experience into the classroom. The curriculum has been validated by several subject matter experts throughout the country and is based on a national model developed by the National Fire Academy (NFA). The curriculum includes Fire Behavior and Combustion, Building Construction for Fire Protection, Fire Protection Hydraulics and Water Supply, Fire Protection Systems, Introduction to Fire Science, Wildland Firefighting, Fire Inspections, Fire Administration, Safety and Survival, Tactics and Strategy and Hazardous Materials.

The Fire Science program has three concentrations that provide graduates with a sense of community service and what it takes to be successful in the fire service. The wildland concentration provides students the opportunity to specialize in wildland firefighting. The structural concentration provides students the opportunity to specialize in structural firefighting. The Emergency Medical Services (EMS) concentration provides students the opportunity to specialize in advanced medical training that will be helpful in structural and wildland firefighting.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- **Math Proficiency 2**

- **Reading & Writing Proficiency 2**

## Recommended Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- ENG 1101 - College Writing **3 credit hour(s)**
- FS 1010 - Introduction to Fire Science **3 credit hour(s)**
- FS 1504 - Wildland Firefighting **3 credit hour(s)**
- FS 1592 - Wildland Firefighter Technical Skills Development **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- EMS 1001 - EMS First Responder Theory **2 credit hour(s)**
- EMS 1091 - EMS First Responder Lab **1 credit hour(s)**
  
- ENG 1119 - Technical Communications **3 credit hour(s)**  
**or**
- ENG 2219 - Technical Writing **3 credit hour(s)**
  
- FS 1512 - Building Construction **3 credit hour(s)**
- FS 1820 - Hazardous Materials Awareness and Operations **3 credit hour(s)**
- FITT 1410 - Fireline Fitness **2 credit hour(s)**
- GIS 1092 - Map Use and Geospatial Technologies **1 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**
- FS 2210 - Wildland Fire Management **3 credit hour(s)**
- FS 2422 - Fire Behavior and Combustion **3 credit hour(s)**
- FS 2792 - Wildland Fire Basic Land Navigation **1 credit hour(s)**
- FS 2815 - Intermediate Wildland Fire Behavior **2 credit hour(s)**
- FS 2892 - Wildland Firefighter Safety and Survival Skills **1 credit hour(s)**
- **Fire Science (FS) Elective(s) 3 credit hour(s)\* \***

### Term 4

- BIO 1010 - Biology for Non-Majors **3 credit hour(s)**  
**and**
- BIO 1092 - Biology for Non-Majors Lab **1 credit hour(s)**  
**or**
- BIO 1110 - Environmental Science **3 credit hour(s)**  
**and**
- BIO 1192 - Environmental Science Laboratory **1 credit hour(s)**  
**or**
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**



- FS 2820 - Wildland Leadership **4 credit hour(s)**
  - FS 2825 - Wildland Fire Advanced Firefighter Development **3 credit hour(s)**
  - FS 2830 - Wildland Urban Interface Awareness and Strategies **3 credit hour(s)**
  - FS 2999 - Fire Science Capstone Course **1 credit hour(s)**
- 
- SOC 2211 - Social Problems **3 credit hour(s)**  
or
  - SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**

## **Associate of Applied Science in Fire Science, Wildland Firefighting Concentration 66-67 credit hours**

\* MATH 1315 - College Algebra recommended if planning on transferring to a 4-year degree program

\*\* Any FS course not required in this concentration

## **Firefighter I, Certificate of Achievement**

### **School of Health, Wellness & Public Safety (HWPS)**

The certificate of Achievement leads to two International Fire Service Accreditation Congress (IFSAC) Certificates (FS 1820 and FS 2015). The IFSAC certificate is a national certificate that is recognized throughout the USA. Once students complete the prerequisites they can then enroll in FS 2015 Firefighter I that is designed to train the student to level I as outlined in NFPA 1001, Professional Qualifications Standard. 60% of the Firefighter I course involves hands on training to include use of self-contained breathing apparatus (SCBA), hose evolutions, ropes and knots, ladder raises to name a few. Towards the end of the semester students will travel to the State Fire Academy to conduct live fire training, students will then be given a practical and written test.

The program will provide graduates with a sense of community service and what it takes to be successful in the fire service. Different fire departments use various combinations for the selection process besides a degree. Some fire departments are now requiring a Firefighter I certificate that indicates the level of technical and manipulative training.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Courses**

- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- FS 1504 - Wildland Firefighting **3 credit hour(s)**
- FS 1817 - Wildland Emphasis **3 credit hour(s)**
- FS 1820 - Hazardous Materials Awareness and Operations **3 credit hour(s)**
- FS 2015 - Firefighter I **5 credit hour(s)**

## **Certificate of Achievement Firefighter I 15 credit hours**

## **Geographic Information Technology**

### **Geographic Information Technology (Certificate of Completion), Geographic Information Systems Concentration**

School of Applied Technologies (AT)

The GIS concentration emphasizes applications of GIS software and includes courses in database design as well as programming. Students pursuing this certificate concentration will learn the latest industry technology as applied to a range of topics including environmental, hydrological and business applications.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CAD 1001 - Basics of CAD **1 credit hour(s)**
- CM 2205 - Construction Layout and Land Surveying **3 credit hour(s)**
- GIS 1002 - Fundamentals of Geospatial Technology **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- SUR 1002 - Math for Surveying and Mapping **1 credit hour(s)**

### Term 2

- GIS 1001 - Introduction to GIS **3 credit hour(s)**
- GIS 1005 - CAD for Surveying and GIS **3 credit hour(s)**
- GIS 1008 - Land Information Systems **3 credit hour(s)**

### Term 3

- GIS 2020 - Trends in Geospatial Technology **3 credit hour(s)**

### Term 4

- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- GIS 2001 - Intermediate GIS **3 credit hour(s)**
- GIS 2008 - GPS Field Mapping **2 credit hour(s)**
- GIS 2011 - Remote Sensing and Image Processing **3 credit hour(s)**

## Certificate of Completion in Geographic Information Technology, Geographical Information Systems Concentration **34 credit hours**

## Geographic Information Technology, Associate of Applied Science

### School of Applied Technologies (AT)

The Geographic Information Technology (GIT) Degree program offers a rigorous curriculum in geospatial technology, encompassing the areas of GIS, survey, remote sensing, database and programming in addition to general education courses. Students completing the degree will be prepared to work in the geospatial industry or continue on to 4-year studies in geography at UNM or NMSU.

Students will study Geographic Information Systems (GIS) and related geospatial technologies including satellite-based mapping systems, remote sensing, and land survey. Practical, lab-based applications are emphasized. Both the certificate and degree options are offered as stand-alone choices for the student. Students who complete the GIT degree may choose to enter the work force or continue their education at a 4-year institution. It is critical to meet with an Academic Coach or Program Chair to design your academic schedule as some courses may be offered only in certain terms.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CAD 1001 - Basics of CAD **1 credit hour(s)**
- CM 2205 - Construction Layout and Land Surveying **3 credit hour(s)**
- GIS 1002 - Fundamentals of Geospatial Technology **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- MATH 1210 - Methods of Problem Solving **4 credit hour(s)**  
**or**
- MATH 1310 - Intermediate Algebra **4 credit hour(s)**
  
- SUR 1002 - Math for Surveying and Mapping **1 credit hour(s)**

### Term 2

- GIS 1001 - Introduction to GIS **3 credit hour(s)**
- GIS 1005 - CAD for Surveying and GIS **3 credit hour(s)**
- GIS 1008 - Land Information Systems **3 credit hour(s)**

### Term 3

- CIS 1250 - Python Programming I **3 credit hour(s)**
  
- GEOG 1101 - Physical Geography **3 credit hour(s)**  
**or**
- GEOG 1102 - Human Geography **3 credit hour(s)**
  
- GIS 2020 - Trends in Geospatial Technology **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**

### Term 4

- CIS 1513 - Database Design and Introduction to SQL **3 credit hour(s)**
- GIS 2001 - Intermediate GIS **3 credit hour(s)**
- GIS 2007 - GIS Applications **3 credit hour(s)**
- GIS 2008 - GPS Field Mapping **2 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**

### Term 5

- CIS 2520 - Introduction to SQL (Structured Query Language) **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- GEOG 2275 - Cartography **3 credit hour(s)**
- GIS 2030 - GIS Project Design **3 credit hour(s)**
- GIS 2011 - Remote Sensing and Image Processing **3 credit hour(s)**

**Associate of Applied Science in Geographic Information Technology 65 credit hours**

## Geography

# Geography, Associate of Arts

## School of Math, Science & Engineering (MSE)

Geography is the field of science describing, analyzing, and understanding the distribution and spatial interaction of Earth's physical and cultural landscapes. Using tools such as mapping, it focuses on the complex interrelationships between Earth and human systems, sustainability of global and local resources, and social and demographic phenomena. This program is designed to meet the requirements for an Associate of Arts in Geography from CNM and prepare a student to obtain a Bachelor of Arts or a Bachelor of Science in Geography at the University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the UNM Geography Department. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3 or MATH 1210
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- GEOG 1101 - Physical Geography **3 credit hour(s)**
- GEOG 1192 - Physical Geography Lab **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- **Elective 1 - 4 credit hour(s) (MATH 1331 recommended)\***

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- GEOG 1102 - Human Geography **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s) (ECON 2200 recommended) \* \***

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Elective 3-4 credit hour(s) §**
- **Humanities Requirement 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Modern Language Elective 3-4 credit hour(s)**

### Term 4

- GEOG 2275 - Cartography **3 credit hour(s)**
- **Elective 3-4 credit hour(s) §**
- **Elective 3-4 credit hour(s) §**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**

## Associate of Arts in Geography 60 - 68 credit hours

\* **MATH 1331 recommended. A strong background in statistics is required for almost all geography applications. MATH 1331 provides additional statistical context and applications, with an emphasis on using many of the statistical tools that geographers use every day, including Excel and other software packages.**

\*\* **ECON 2200 recommended. A background in macroeconomics is essential not only for study in economic geography but also provides foundational knowledge in very marketable applications of the geography major, including town planning, location analysis, market research, and sustainability and conservation work.**

## Program Approved Electives

- GEOG 1950 - Humans' Role in Changing the Face of the Earth **3 credit hour(s)**<sup>a</sup>
- GEOG 1960 - Geography of Food **3 credit hour(s)**
- GEOG 2201 - World Regional Geography **3 credit hour(s)**<sup>o</sup>
- GEOG 2510 - Meteorology **3 credit hour(s)**

<sup>a</sup> GEOG 1950 transfers to UNM as GEOG 195. GEOG 195 is required for students pursuing a BA in Geography at UNM.

<sup>o</sup> GEOG 2201 transfers to UNM as GEOG 140. GEOG 140 is required for students pursuing a BA in Geography at UNM.

## Electives

§ Students should choose elective courses that are conducive to their future career and college plans. Those whose future major/career goals are in physical geography should ensure that they have a strong background in science and math, while those whose future major/career goals include economic, political or cultural geography should acquire a strong background in the appropriate social and behavioral sciences. It is wise for students to consult with an advisor at the 4-year institution to which they wish to transfer to best determine which courses to take.

# Health Information Management

## Electronic Health Informatics, Associate of Applied Science

### School of Health, Wellness & Public Safety (HWPS)

The need for specialists who understand both the medical record and the technology aspects of the electronic health record will be in high demand as the healthcare industry transitions from a paper-based health record to an electronic one. This degree prepares students to work in the profession of electronic health records. Graduates will be able to provide support for health information management systems but will not have training in medical coding.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- HIT 1030 - Health Data Content and Structure **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- EHR 1010 - Introduction to Electronic Health Record **3 credit hour(s)**
- HIT 1060 - Health Information Management Systems **3 credit hour(s)**
- HIT 1070 - Legal/Ethical Aspects of Health Information **3 credit hour(s)**

- CIS 1415 - Network Essentials **3 credit hour(s)**
- CIS 1610 - Configuring Windows Client **3 credit hour(s)**

### Term 3

- CIS 1810 - Information Storage and Management (ISM) **3 credit hour(s)**
- CIS 2670 - Computer Security+ **3 credit hour(s)**
- EHR 1090 - Electronic Health Record Practicum **2 credit hour(s)**
- HIT 2040 - Health Information Data Analysis **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**

### Term 4

- CIS 2810 - Cloud Infrastructure I **3 credit hour(s)**
- EHR 2210 - Health Information Exchange and Mobile-Health **4 credit hour(s)**
- EHR 2292 - Health Information Exchange and Mobile-Health Lab **1 credit hour(s)**
- EHR 2290 - Electronic Health Records Practicum II **2 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- **Social/Behavioral Science Elective 3 credit hour(s)**

## Associate of Applied Science in Electronic Health Informatics 61-62 credit hours

### Electronic Health Record, Certificate of Completion

#### School of Health, Wellness & Public Safety (HWPS)

The need for specialists who understand both the medical record and the technology aspects of the electronic health record will be in high demand as the healthcare industry transitions from a paper-based health record to an electronic one. This program prepares students to work in the profession of electronic health records. Graduates will be able to provide support for health information management systems but will not have training in medical coding.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- CIS 1410 - IT Essentials I: PC Hardware and Software **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- HIT 1030 - Health Data Content and Structure **4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

#### Term 2

- CIS 1415 - Network Essentials **3 credit hour(s)**
- EHR 1010 - Introduction to Electronic Health Record **3 credit hour(s)**
- HIT 1060 - Health Information Management Systems **3 credit hour(s)**
- MATH 1210 - Methods of Problem Solving **4 credit hour(s)**

#### Term 3

- CIS 1610 - Configuring Windows Client **3 credit hour(s)**

- EHR 1090 - Electronic Health Record Practicum **2 credit hour(s)**
- HIT 1070 - Legal/Ethical Aspects of Health Information **3 credit hour(s)**
- HIT 2040 - Health Information Data Analysis **3 credit hour(s)**

## Certificate of Completion in Electronic Health Record **37 credit hours**

### Health Information Technology, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

The Health Information Technology (HIT) associate of applied science degree program provides students the opportunity to gain the knowledge and technical skills necessary for managing health information within the health care delivery system. Students will study anatomy and physiology, medical terminology, pathology, pharmacology and laboratory procedures, the scope of the health information management system, the origin, use, content and format of health records and release of information, ICD-10-CM and CPT coding, health care reimbursement, legal/ethical aspects, and data analysis, quality and supervision in health information.

The HIT program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). For further information on accreditation, contact CAHIIM at 233 N. Michigan Ave., Suite 2150, Chicago, IL 60601-5519, (312) 233-1100. Upon graduation, students are eligible to take the national certification exam. Successful candidates earn the professional credential of Registered Health Information Technician (RHIT).

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- BIO 1310 - Human Anatomy and Physiology for Non-Majors **3 credit hour(s)**  
**and**
- BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory **1 credit hour(s)**  
**or**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**  
**and**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1175 - Computers in the Medical Office **2 credit hour(s)**

##### Term 2

- BA 1131 - Business Professionalism **3 credit hour(s)**
- HIT 1015 - Introduction to Coding **3 credit hour(s)**
- HIT 1030 - Health Data Content and Structure **4 credit hour(s)**
- HIT 1240 - Principles of Disease **3 credit hour(s)**
- HIT 1250 - Pharmacology and Laboratory Procedures **2 credit hour(s)**

##### Term 3

- ENG 1119 - Technical Communications **3 credit hour(s)**

- HIT 1060 - Health Information Management Systems **3 credit hour(s)**
- HIT 1070 - Legal/Ethical Aspects of Health Information **3 credit hour(s)**
- HIT 1090 - Health Information Practicum I **1 credit hour(s)**
- HIT 2010 - Classification of Diseases I (ICD-CM) **3 credit hour(s)**
- MATH 1210 - Methods of Problem Solving **4 credit hour(s)**

#### Term 4

- HIT 2020 - Classification of Diseases II **3 credit hour(s)**
- HIT 2030 - CPT Coding **3 credit hour(s)**
- HIT 2040 - Health Information Data Analysis **3 credit hour(s)**
- HIT 2050 - Health Information Supervision **3 credit hour(s)**
- HIT 2060 - Reimbursement Methodologies **2 credit hour(s)**
- HIT 2290 - Health Information Practicum II **2 credit hour(s)**

### **Associate of Applied Science in Health Information Technology 66-68 credit hours**

## **Health, Wellness & Public Safety**

### **Health, Wellness, and Public Safety (HWPS), Certificate of Completion**

#### **School of Health, Wellness & Public Safety (HWPS)**

The Health, Wellness, and Public Safety (HWPS) major is a Certificate of Completion program that prepares students for many HWPS programs at CNM. It helps students fulfill the General Education and Choice requirements for Associate of Applied Science degrees required by the State of New Mexico and the CNM core curriculum. Individual HWPS programs may require that students take specific courses within the General Education and Choice requirements for the purpose of transfer or for meeting industry standards and accreditation guidelines. This Certificate of Completion is intended as a pass through certification to demonstrate student progress towards the completion of requirements for a HWPS Associate of Applied Science degree.

## **Career and Educational Opportunities**

Gainful Employment information is available from Job Connection Services.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### Required Courses

- **AAS Choice Requirement 3 credit hours \***
- **AAS Human Relations Requirement 3 credit hours \*\***
- **AAS Mathematics Requirement 3 - 4 credit hour(s)\*\*\***
- **AAS Written Communication Requirement 3 credit hours \*\*\*\***
- **Program Approved Elective I 3 credit hours**

**Program Approved Elective II 1-6 credit hours**

### **Certificate of Completion in Health, Wellness, and Public Safety (HWPS), 16-22 credit hours**

\* BIO 1410 or BIO 2210 or COMM 1130 or COMM 2221 or PSY 1105 recommended



**\*\* COMM 2221 or PHIL 2247 or PSY 1105 or SOC 2216 recommended**

**\*\*\* MATH 1315 or MATH 1330 recommended**

**\*\*\*\* ENG 1101 recommended**

### **Program Approved Elective I (3 credit hours)**

- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- NRSG 1010 - Introduction to Nursing Concepts **3 credit hour(s)**

### **Program Approved Elective II (1-6 credit hours)**

- BPCS 1092 - Basic Patient Care Skills **1 credit hour(s)**
- CJ 1001 - Introduction to Criminal Justice **3 credit hour(s)**
- COS 1010 - Orientation **2 credit hour(s)**
- DA 1010 - Dental Science I **3 credit hour(s)**
- EMS 1001 - EMS First Responder Theory **2 credit hour(s)**
- EMS 1053 - EMT Basic Theory **6 credit hour(s)**
- EMS 1412 - Advanced EMT (EMT-I) Theory **6 credit hour(s)**
- FITT 1010 - Foundations of Exercise Science **3 credit hour(s)**
- FITT 1120 - Principles of Fitness and Wellness **3 credit hour(s)**
- FS 1010 - Introduction to Fire Science **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- HLTH 1020 - Introduction to Healthcare Careers **3 credit hour(s)**
- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**
- HLTH 1040 - Introduction to Medical Imaging **3 credit hour(s)**
- HLTH 1050 - Community Health Worker **1 credit hour(s)**
- HWPS 1005 - Survey of Health, Wellness and Public Safety **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MLT 1001 - Preparation for Medical Lab Sciences **3 credit hour(s)**
- NA 1020 - Principles of Nursing Assistant **3 credit hour(s)**
- NRSG 1015 - Principles of Nursing Practice **4 credit hour(s)**
- PCT 1020 - Patient Care Technician **4 credit hour(s)**
- PL 1110 - Introduction to Paralegal Studies **3 credit hour(s)**
- PTA 1010 - The Profession of Physical Therapy **1 credit hour(s)**
- PT 1010 - Introduction to Pharmacy Technology **3 credit hour(s)**
- RT 1020 - Physics of Respiratory Therapy **3 credit hour(s)**
- SPT 1010 - Basics of Sterile Processing **2 credit hour(s)**
- ST 1001 - Introduction to Surgical Technology **2 credit hour(s)**
- VT 1003 - Preparation for Professional Success **1 credit hour(s)**
- VT 1005 - Veterinary Reception Basic Skills **3 credit hour(s)**
- VT 1011 - Introduction to the Veterinary Profession **3 credit hour(s)**

## **Heating, Ventilating, Air Conditioning and Refrigeration (HVAC)**

### **Commercial, Industrial HVAC & Building Performance, Certificate of Completion**

#### **School of Applied Technologies (AT)**

With the Commercial, Industrial HVAC/R & Green Building Performance Certificate of Completion students will have an in-depth background in commercial and industrial refrigeration, steam and hot water boilers and boiler controls, chillers and chiller controls,

green building performance and building automation controls. Students will create system designs which will include calculating building loads; duct design, performance analysis, and code enforcement.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- HVAC 1105 - Refrigerant Fundamentals **4 credit hour(s)**
- HVAC 1110 - Basic Electricity **3 credit hour(s)**
- HVAC 1115 - Refrigerant Management **3 credit hour(s)**
- HVAC 1120 - Motors & Controls **3 credit hour(s)**
- HVAC 1130 - Code and Safety I **1 credit hour(s)**

### Term 2

- ENG 1101 - College Writing **3 credit hour(s)**
- HVAC 1235 - Air Conditioning and Controls **3 credit hour(s)**
- HVAC 1240 - System Design, Installation & Retrofit of Heating/Cooling Systems **4 credit hour(s)**
- HVAC 1245 - Heating and Heating Control Systems **3 credit hour(s)**

### Term 3

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- HVAC 1321 - Advanced Hydronics and Controls I **3 credit hour(s)**
- HVAC 1323 - Hot Water & Steam Generation Systems & Controls II **3 credit hour(s)**
- HVAC 1325 - Chilled Water Systems **2 credit hour(s)**
- HVAC 1330 - Controls III **2 credit hour(s)**
- HVAC 1335 - Code and Safety Requirements II **1 credit hour(s)**

### Term 4

- HVAC 1405 - Refrigeration Application **2 credit hour(s)**
- HVAC 1410 - Commercial Refrigeration **2 credit hour(s)**
- HVAC 1415 - Industrial Refrigeration **2 credit hour(s)**
- HVAC 1420 - Energy Efficiency & Green Building Standards I **3 credit hour(s)**
- HVAC 1425 - Energy Efficiency & Green Building Standards II **3 credit hour(s)**
- HVAC 1430 - Energy Efficiency & Green Building Code Compliance **1 credit hour(s)**

## Certificate of Completion in Commercial, Industrial HVAC & Building Performance **54 credit hours**

## Heating, Ventilating, Air Conditioning and Refrigeration Technology, Associate of Applied Science

### School of Applied Technologies (AT)

The Heating, Ventilating, Air Conditioning and Refrigeration (HVAC) Technology program provides students the opportunity to gain knowledge and technical skills for entry into the Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) field in the areas of service, maintenance, installation, energy efficiency and green building standards.

The program prepares the students in proper safety practices of mechanical equipment, proper refrigeration and hydronic piping practices, electrical circuitry and troubleshooting, service and maintenance of various types of heating, ventilation, air conditioning, heat pump, commercial and industrial refrigeration and HVAC/R accessories.

The program offers students an in-depth background in HVAC/R fundamentals through hands-on labs. Training is provided in service and maintenance on heating (natural gas and electric), air conditioning and heat pumps (packaged and split systems), steam and hot water boilers and boiler controls, chillers and chiller controls, green building performance and building automation controls.

Students will gain an understanding of wiring diagrams to be able to troubleshoot equipment problems and create a sequence of operation from the wiring diagrams. Create system designs which will include calculating building loads; duct design, performance analysis, and code enforcement.

With the Residential HVAC Certificate of Completion (Term 1 & 2, 32 credit hours) students will have the basic knowledge to enter the Residential HVAC work force. This certificate covers the areas of proper safety practices of mechanical equipment, proper refrigeration practices, electrical circuitry, troubleshooting, service, maintenance and installation of various types of heating, ventilation, air conditioning, heat pump in the residential HVAC industry.

With the Commercial, Industrial HVAC/R & Green Building Performance Certificate of Completion (Terms 1, 2, 3 & 4, 58 credit hours) students will have (in addition to the Residential HVAC, Certificate of Completion) an in-depth background in commercial and industrial refrigeration, steam and hot water boilers and boiler controls, chillers and chiller controls, green building performance and building automation controls. Students will create system designs which will include calculating building loads; duct design, performance analysis, and code enforcement.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- HVAC 1105 - Refrigerant Fundamentals **4 credit hour(s)**
- HVAC 1110 - Basic Electricity **3 credit hour(s)**
- HVAC 1115 - Refrigerant Management **3 credit hour(s)**
- HVAC 1120 - Motors & Controls **3 credit hour(s)**
- HVAC 1130 - Code and Safety I **1 credit hour(s)**

### Term 2

- ENG 1101 - College Writing **3 credit hour(s)**
- HVAC 1235 - Air Conditioning and Controls **3 credit hour(s)**
- HVAC 1240 - System Design, Installation & Retrofit of Heating/Cooling Systems **4 credit hour(s)**
- HVAC 1245 - Heating and Heating Control Systems **3 credit hour(s)**

### Term 3

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- HVAC 1321 - Advanced Hydronics and Controls I **3 credit hour(s)**
- HVAC 1323 - Hot Water & Steam Generation Systems & Controls II **3 credit hour(s)**
- HVAC 1325 - Chilled Water Systems **2 credit hour(s)**
- HVAC 1330 - Controls III **2 credit hour(s)**
- HVAC 1335 - Code and Safety Requirements II **1 credit hour(s)**

### Term 4

- HVAC 1405 - Refrigeration Application **2 credit hour(s)**
- HVAC 1410 - Commercial Refrigeration **2 credit hour(s)**
- HVAC 1415 - Industrial Refrigeration **2 credit hour(s)**

- HVAC 1420 - Energy Efficiency & Green Building Standards I **3 credit hour(s)**
- HVAC 1425 - Energy Efficiency & Green Building Standards II **3 credit hour(s)**
- HVAC 1430 - Energy Efficiency & Green Building Code Compliance **1 credit hour(s)**

## Term 5

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- HVAC 2095 - Heating, Ventilating, Air Conditioning and Refrigeration COOP **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Applied Science in Heating, Ventilating, Air Conditioning and Refrigeration Technology **66-67 credit hours**

### Residential HVAC, Certificate of Completion

#### School of Applied Technologies (AT)

The Heating, Ventilating, Air Conditioning and Refrigeration (HVAC) Technology program provides students the opportunity to gain knowledge and technical skills for entry into the Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) field in the areas of service, maintenance, installation, energy efficiency and green building standards. The program prepares the students in proper safety practices of mechanical equipment, proper refrigeration and hydronic piping practices, electrical circuitry and troubleshooting, service and maintenance of various types of heating, ventilation, air conditioning, heat pump, commercial and industrial refrigeration and HVAC/R accessories. The program offers students an in-depth background in HVAC/R fundamentals through hands-on labs. Training is provided in service and maintenance on heating (natural gas and electric), air conditioning and heat pumps (packaged and split systems), steam and hot water boilers and boiler controls, chillers and chiller controls, green building performance and building automation controls. Students will gain an understanding of wiring diagrams to be able to troubleshoot equipment problems and create a sequence of operation from the wiring diagrams. Create system designs which will include calculating building loads; duct design, performance analysis, and code enforcement.

With the Residential HVAC Certificate of Completion ( Term 1 & 2, 32 credit hours ) students will have the basic knowledge to enter the Residential HVAC work force. This certificate covers the areas of proper safety practices of mechanical equipment, proper refrigeration practices, electrical circuitry, troubleshooting, service, maintenance and installation of various types of heating, ventilation, air conditioning, heat pump in the residential HVAC industry.

With the Commercial, Industrial HVAC/R & Green Building Performance Certificate of Completion (Terms 1, 2, 3 & 4, 58 credit hours) students will have (in addition to the Residential HVAC, Certificate of Completion ) an in-depth background in commercial and industrial refrigeration, steam and hot water boilers and boiler controls, chillers and chiller controls, green building performance and building automation controls. Students will create system designs which will include calculating building loads; duct design, performance analysis, and code enforcement.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- HVAC 1105 - Refrigerant Fundamentals **4 credit hour(s)**
- HVAC 1110 - Basic Electricity **3 credit hour(s)**
- HVAC 1115 - Refrigerant Management **3 credit hour(s)**
- HVAC 1120 - Motors & Controls **3 credit hour(s)**
- HVAC 1130 - Code and Safety I **1 credit hour(s)**

## Term 2

- ENG 1101 - College Writing **3 credit hour(s)**
- HVAC 1235 - Air Conditioning and Controls **3 credit hour(s)**
- HVAC 1240 - System Design, Installation & Retrofit of Heating/Cooling Systems **4 credit hour(s)**
- HVAC 1245 - Heating and Heating Control Systems **3 credit hour(s)**

## Certificate of Completion in Residential HVAC 27 credit hours

# History

## History, Associate of Arts

### School of Communication, Humanities & Social Sciences (CHSS)

History is the study of change over time, encompassing a wide range of recorded human experiences. While every field of study has a history, the history discipline falls mainly within the humanities. A bachelor's degree in history prepares students for careers in law, public service, foreign affairs, teaching, and similar fields that value critical thinking, research, and writing skills coupled with knowledge of history.

Students of History at CNM will read the work of published historians and documents from the past to understand historical change and how the world we live in came to be. They will develop the abilities to assess historical evidence and conflicting interpretations, and to analyze both the changes and the continuity of the past. Students will gain a better understanding of why history is important and how learning about the past provides us with the background to compare our times and our concerns with those of people who lived before us, learning to evaluate their ideas and interpret their historical meaning.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- HIST 1101 - Western Civilization I **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- HIST 1102 - Western Civilization II **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

### Term 3

- HIST 1161 - History of the United States I **3 credit hour(s)\***  
or
- HIST 1181 - Early Latin American History **3 credit hour(s)\***
- COMM 1130 - Public Speaking **3 credit hour(s)**

or

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Elective 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Sciences Requirement 3 credit hour(s)**

#### Term 4

- HIST 1162 - History of the United States II **3 credit hour(s)\***  
or
- HIST 1182 - Modern Latin American History **3 credit hour(s)\***
- **Elective 6 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Sciences Requirement 3 credit hour(s)**

### Associate of Arts in History 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in History. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four-year transfer school to confirm specific admission and degree requirements.

\* CNM students who plan to transfer to UNM and specialize in the United States should take HIST 1161 and HIST 1162, while those planning to specialize in Latin America should take HIST 1181 and HIST 1182.

#### Program Approved Electives

Choose from the following list of courses:

- HIST 2096-2996 - Special Topics **3 credit hour(s)**
- HIST 2240 - Vietnam: War Politics and Culture **3 credit hour(s)**
- HIST 2260 - History of New Mexico **3 credit hour(s)**
- HIST 2270 - The American West **3 credit hour(s)**

## Home Health Aide

### Home Health Aide, Certificate of Achievement

#### School of Health, Wellness & Public Safety (HWPS)

This program prepares students at two levels: a foundational training for Personal Care Assistants and more advanced training for Home Health Aides. Completion of the program meets or exceeds the New Mexico Department of Health requirements for each level of training.

#### Personal Care Assistant/Home Health Aide

- HHA 1090 - Home Health Attendant Foundation Skills: Personal Care Assistant **1 credit hour(s)**
- HHA 1190 - Home Health Aide Advanced Skills **1 credit hour(s)**

### Certificate of Achievement, Home Health Aide 2 credit hours

## Hospitality and Tourism

### Hospitality and Tourism, Associate of Arts

## School of Business & Information Technology (BIT)

This is an Associate of Arts degree designed to substantially fulfill the freshman and sophomore course requirements for admission to bachelor's degree programs in Hospitality Management at New Mexico State and other colleges and universities. The degree's general education curriculum is accepted for transfer toward the general education core. Go here for articulation agreements.

Students are encouraged to communicate with the School of Business & Information Technology associate dean or program chairs, as well as with admissions advisors at the college or university where they plan to complete the bachelor's degree. Courses taken with the credit/no credit option, transfer credits and non-traditional credits that have been accepted by CNM may not be accepted by the transfer institution. Many four-year institutions have minimum grade point average requirements for admission as well as a requirement that all coursework be completed with grades of C or better.

The Hospitality & Tourism degree provides the foundational coursework for hospitality management. An overview of the hospitality industry and various employment and educational opportunities will be explored. In addition, students will study hospitality operations, marketing, event planning, food safety and production. Organizational behavior, human resources, leadership and management skills will be developed and applied in theory and lab settings.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- HT 1101 - Introduction to Tourism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- MATH 1315 - College Algebra **3 credit hour(s)**  
or
- MATH 1320 - A Survey of Mathematics **3 credit hour(s)**  
or
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**  
or
- MATH 1710 - Calculus I **4 credit hour(s)**
  
- **Humanities/Fine Arts Requirement 3 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- CULN 1003 - Food Safety Principles **1 credit hour(s)**  
or
- CULN 1103 - Safety and Sanitation Principles **3 credit hour(s)**
  
- ECON 1101 - Introduction to Economics **3 credit hour(s)**
  
- ENG 1119 - Technical Communications **3 credit hour(s)**  
or

- ENG 2219 - Technical Writing **3 credit hour(s)**
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**

### Term 3

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- CULN 1010 - Food Production Fundamentals **3 credit hour(s)**
- FREN 1101 - Beginning French I **4 credit hour(s) or higher**  
**or**
- SPAN 1101 - Beginning Spanish **4 credit hour(s) or higher**
- Biological/Physical Science Requirement **4-5 credit hour(s)**
- Social/Behavioral Science Requirement **3 credit hour(s)**

### Term 4

- HT 2235 - Leadership and Management in the Hospitality Industry **3 credit hour(s)**
- **Biological/Physical Science Approved Elective 4-5 credit hour(s)**
- **Humanities/Fine Arts Requirement 3 credit hour(s)**
- **Humanities/Fine Arts Requirement 3 credit hour(s)**  
**or**
- **Social Behavioral Science Requirement 3 credit hour(s)**
- **Any BEV, CULN, or HT course not required in the degree 3 credit hour(s)**

## Associate of Arts in Hospitality and Tourism 61-66 credit hours

### Program Requirements

#### Biological/Physical Science

Eight (8) credit hours required, to include at least one laboratory class.

- ASTR 1110 - Introduction to Stellar and Galactic Astronomy **3 credit hour(s)**
- ASTR 1192 - Introduction to Stellar and Galactic Astronomy Laboratory **1 credit hour(s)**
- BIO 1010 - Biology for Non-Majors **3 credit hour(s)**
- BIO 1092 - Biology for Non-Majors Lab **1 credit hour(s)**
- BIO 1110 - Environmental Science **3 credit hour(s)**
- BIO 1192 - Environmental Science Laboratory **1 credit hour(s)**
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**
- PHYS 1592 - Algebra-Based Physics I Laboratory **1 credit hour(s)**
- PHYS 1610 - Algebra-Based Physics II **4 credit hour(s)**



- PHYS 1692 - Algebra-Based Physics II Laboratory **1 credit hour(s)**
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
- PHYS 1792 - Calculus-Based Physics I Laboratory **1 credit hour(s)**
- PHYS 1810 - Calculus-Based Physics II **4 credit hour(s)**
- PHYS 1892 - Calculus-Based Physics II Laboratory **1 credit hour(s)**

## Social/Behavioral Science

6-9 credit hour(s)

required in each Social/Behavioral Science and Humanities/Fine Arts for a total of 15 credit hour(s).

- ANTH 1101 - Intro Anthropology **3 credit hour(s)**
- ANTH 1120 - Archaeology: Discovering Our Past **3 credit hour(s)**
- ANTH 1130 - Cultures of the World **3 credit hour(s)**
- ECON 2200 - Macroeconomics **3 credit hour(s)**
- ECON 2201 - Microeconomics **3 credit hour(s)**
- GEOG 1102 - Human Geography **3 credit hour(s)**
- GEOG 2201 - World Regional Geography **3 credit hour(s)**
- PSCI 1110 - The Political World **3 credit hour(s)**
- PSCI 2200 - U.S. Politics **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

## Humanities/Fine Arts

6-9 credit hour(s)

required in each Social/Behavioral Science and Humanities/Fine Arts for a total of 15 credit hour(s).

- ARTH 1101 - Introduction to Art **3 credit hour(s)**
- ARTH 2201 - History of Art I **3 credit hour(s)**
- ARTH 2202 - History of Art II **3 credit hour(s)**
- ENG 2221 - Creative Writing: Fiction **3 credit hour(s)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**
- HIST 1102 - Western Civilization II **3 credit hour(s)**
- HIST 1161 - History of the United States I **3 credit hour(s)**
- HIST 1162 - History of the United States II **3 credit hour(s)**
- MUS 1139 - Early Music Appreciation **3 credit hour(s)**
- PHIL 1110 - Introduction to Philosophical Thought **3 credit hour(s)**
- PHIL 1102 - Ethics in Society **3 credit hour(s)**
- RLGN 1107 - Living World Religions **3 credit hour(s)**
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**

## Hospitality and Tourism, Certificate of Completion

### School of Business & Information Technology (BIT)

The Hospitality and Tourism Certificate of Completion is a two-term program that prepares students for careers in the dynamic hospitality and tourism industry. The courses provide a solid foundation of skills required in the hospitality industry. Students will study hospitality operations, marketing, event planning, customer service and interpersonal relations. An overview of the hospitality industry and various employment and educational opportunities will also be explored.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)\***  
or
- BA 1121 - Business English **3 credit hour(s)**
  
- HT 1101 - Introduction to Tourism **3 credit hour(s)**  
or
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**
  
- HT 1111 - Guest Service Management **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Program Approved Electives 3 credit hour(s)**

### Term 2

- BA 1131 - Business Professionalism **3 credit hour(s)**
  
- HT 2141 - Marketing Services **3 credit hour(s)**  
or
- BA 2222 - Principles of Marketing **3 credit hour(s)**
  
- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- HT 2235 - Leadership and Management in the Hospitality Industry **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## Certificate of Completion in Hospitality and Tourism 28 credit hours

\* Hospitality and Tourism degree students must choose ENG 1101.

### Program Approved Electives

- **Any ACCT Courses**
- **Any BEV Courses**
- **Any BA Courses (except those required for certificate)**
- **Any CIS Courses**
- **Any CULN Courses**
- **Any HT Courses (except those required for certificate)**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CSE 1101 - College Success **3 credit hour(s)**
  
- CULN 1096-1996 - Special Topics **1-3 credit hour(s)**  
or
- CULN 2096-2996 - Special Topics **1-3 credit hour(s)**
  
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**

- FREN 1101 - Beginning French I **4 credit hour(s)**
- SPAN 1101 - Beginning Spanish **4 credit hour(s)**

## Human Services

### Human Services, Associate of Arts

#### School of Communication, Humanities & Social Sciences (CHSS)

The Human Services degree is designed for students who wish to work in a wide variety of settings with a focus on helping others. The Human Services associate degree is articulated for transfer to most bachelor's level Social Work programs in New Mexico.

The Human Services degree provides for diverse learning based upon student's interests to include: substance abuse counseling, child development, family studies, sociology, psychology, and criminal justice.

Students who are interested in working with young children and families can earn a Child Development Certificate of Achievement by taking ECME 1104, ECME 1108, ECME 2204 and ECME 2206 as program electives. The CNM Child Development Certificate of Achievement is aligned to support the New Mexico Child Development Certificate (CDC) offered by the New Mexico Office of Child Development. Individuals must be currently working in a child-care setting to qualify for the state certificate. To apply for the New Mexico Child Development Certificate, an applicant must request a Certificate Packet from the New Mexico Kids Network office by calling (505) 277-1118. Successful completion requires verification of coursework completion, a professional resource file, a family opinion questionnaire, an observation, and oral interview.

Students can take specified electives to become a Licensed Substance Abuse Associate (LSAA) or obtain a certificate in Substance Abuse Counseling to satisfy program electives. The LSAA provides individuals with the entry-level licensure required to work in the field of Substance Abuse Counseling to gain required supervised internship hours for the Licensed Alcohol and Drug Abuse Counselor (LADAC) license.

The associate degree in Human Services and the certificate in Substance Abuse Counseling meet the requirements for becoming a Licensed Alcohol and Drug Abuse Counselor (LADAC) through the New Mexico Counseling and Therapy Board after completing internship hours and passing the National Certified Addiction Counselor (NCAC) Level 1 exam. For questions regarding specific requirements for the LSAA and the LADAC certification, contact the New Mexico Counseling and Therapy Practice Board (NMCTPB) at [www.rld.state.nm.us](http://www.rld.state.nm.us).

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HSV 2210 - Introduction to Social Work **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**  
or
- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**  
or
- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**

or

- SOC 2211 - Social Problems **3 credit hour(s)**

or

- SOC 2213 - Deviant Behavior **3 credit hour(s)**

or

- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**

or

- SOC 2225 - Sociology of Family **3 credit hour(s)**

or

- SOC 2235 - Sociology of Gender **3 credit hour(s)**

## Term 2

- ANTH 1101 - Intro Anthropology **3 credit hour(s)**

or

- ANTH 1130 - Cultures of the World **3 credit hour(s)**

or

- ANTH 2238 - Cultures Of the Southwest **3 credit hour(s)**

or

- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**

- **Program Approved Elective 3 credit hour(s)**

- HSV 2890 - Social Work Practicum **2 credit hour(s)**

- **Laboratory Science Requirement 4 credit hour(s)**

## Term 3

- **Humanities Requirement 3 credit hour(s)**

- **Laboratory Science Requirement 4 credit hour(s)**

- **Program Approved Electives 9 credit hour(s)**

## Term 4

- **Fine Arts Requirement 3 credit hour(s)**

- MATH 1315 - College Algebra **3 credit hour(s)**

or

- MATH 1320 - A Survey of Mathematics **3 credit hour(s)**

or

- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)\***

- **Program Approved Electives 6 credit hour(s)**

- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

or

- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**

or

- SOC 2211 - Social Problems **3 credit hour(s)**  
or
- SOC 2213 - Deviant Behavior **3 credit hour(s)**  
or
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**  
or
- SOC 2225 - Sociology of Family **3 credit hour(s)**  
or
- SOC 2235 - Sociology of Gender **3 credit hour(s)**

## **Associate of Arts in Human Services, Social Work Concentration 61 credit hours**

### Program Approved Electives

- **Any AAST Course - Asian American Studies Course**
- **Any AFST Course - African American Studies Course**
- **Any CHMS Course - Chicano Studies Course**
- **Any CST Course - Cultural Studies Studies Course**
- **Any NATV Course - Native American Studies Course**
- **Any WMST Course - Women's Studies Course**
- ANTH 2265 - The Anthropology of Drugs **3 credit hour(s)**
- CDV 1101 - Parents and Young Children **3 credit hour(s)**
- CDV 1103 - Preschool Growth and Development **3 credit hour(s)**
- CDV 1107 - Art and Play **3 credit hour(s)**
- CDV 1890 - Family Studies Practicum I **2 credit hour(s)**
- CDV 2096-2996 - Special Topics **1-6 credit hour(s)**
- CDV 2201 - Middle Childhood Growth and Development **3 credit hour(s)**
- CDV 2202 - Adolescent Growth and Development **3 credit hour(s)**
- CDV 2218 - Strengthening Family Structures **3 credit hour(s)**
- CDV 2219 - Marriages and Families **3 credit hour(s)**
- CDV 2297 - Independent Study **1-3 credit hour(s)**
- CJ 1002 - Criminal Law **3 credit hour(s)**
- CJ 1007 - Criminal Procedure **3 credit hour(s)**
- CJ 1502 - Juvenile Law and Procedure **3 credit hour(s)**
- COMM 2282 - Family Communication Studies **3 credit hour(s)**
- ECME 1108 - Health Safety and Nutrition **2 credit hour(s)**
- ECME 2204 - Assessment of Children and Evaluation of Programs **3 credit hour(s)**
- ECME 2206 - Family and Community Collaboration **3 credit hour(s)**
- ECME 2214 - Guiding Young Children **3 credit hour(s)**
- ECME 2230 - Infant Toddler Growth and Development (Prenatal to 3) **3 credit hour(s)**
- ECME 2232 - Relationships and Reflective Practice in Infant Family Studies **3 credit hour(s)**
- ECME 2234 - Effective Principles and Practices in Infant Family Studies **3 credit hour(s)**
- ECME 2690 - Infant Toddler Growth and Development Practicum **2 credit hour(s)**
- ECME 2790 - Relationships and Reflective Practice in Infant Family Studies Practicum **2 credit hour(s)**
- EDUC 2096-2996 - Special Topics **1-5 credit hour(s)**
  
- EDUC 2204 - Child Development **3 credit hour(s)**  
or

- ECME 1104 - Child Growth Development and Learning **3 credit hour(s)**
  
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
- HLTH 1030 - Introduction to Community Health Care **3 credit hour(s)**
- HSV 1101 - Clinical Evaluation of Substance Abuse and Treatment **3 credit hour(s)**
- HSV 1102 - Case Management for Substance Abuse Counseling **2 credit hour(s)**
- HSV 1103 - Motivational Interviewing **1 credit hour(s)**
- HSV 2201 - Evidence-based Treatment for Substance Abuse Counseling **3 credit hour(s)**
- HSV 2202 - Ethics & Professionalism in Substance Abuse Counseling: Theory and Lab **3 credit hour(s)**
- HSV 2203 - Introduction to Addiction Counseling **2 credit hour(s)\* \***
- HSV 2204 - Professional Issues in Substance Abuse Treatment **2 credit hour(s)\* \***
- HSV 2205 - Adolescent Substance Abuse: Prevention and Treatment **2 credit hour(s)\* \***
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
- PSY 1150 - Drug Abuse and Treatment **3 credit hour(s)**
- PSY 2096-2996 - Special Topics **3 credit hour(s)**
- PSY 2200 - Statistical Principles **3 credit hour(s)**
- PSY 2220 - Developmental Psychology **3 credit hour(s)**
- PSY 2231 - Human Sexuality **3 credit hour(s)**
- PSY 2232 - Clinical Psychology **3 credit hour(s)**
- PSY 2233 - Psychology and Film **3 credit hour(s)**
- PSY 2250 - Introduction to Counseling in the Substance Abuse Field **3 credit hour(s)**
- PSY 2271 - Social Psychology **3 credit hour(s)**
- PSY 2280 - Health Psychology **3 credit hour(s)**
- PSY 2289 - Death and Dying **3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**
- SOC 2096-2996 - Special Topics **3 credit hour(s)**
- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**
- SOC 2211 - Social Problems **3 credit hour(s)**
- SOC 2212 - Juvenile Delinquency **3 credit hour(s)**
- SOC 2213 - Deviant Behavior **3 credit hour(s)**
- SOC 2215 - Criminology **3 credit hour(s)**
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**
- SOC 2225 - Sociology of Family **3 credit hour(s)**
- SOC 2230 - Society and Personality **3 credit hour(s)**
- SOC 2235 - Sociology of Gender **3 credit hour(s)**
- SOC 2250 - Social Problems Facing Children **3 credit hour(s)**
- SOC 2280 - Social Science Research **3 credit hour(s)**
- SPAN 1101 - Beginning Spanish **4 credit hour(s) or higher**
- SPED 2201 - Introduction to Special Education **3 credit hour(s)**
- SPED 2290 - Introduction to Special Education Practicum **2 credit hour(s)**

**\* Recommended for transfer**

**\*\* Courses which meet the LSAA training hour requirements (see program description for more information)**

## **Substance Abuse Counselor, Certificate of Completion**

**School of Communications, Humanities and Social Services (CHSS)**

The Substance Abuse Counselor certificate is an 18-credit hour certificate that will qualify individuals with an associate degree or higher

to become a Licensed Alcohol and Drug Abuse Counselors (LADAC) through the New Mexico Counseling and Therapy Board after completing internship hours and passing the National Certified Addiction Counselor (NCAC) Level 1 exam. For questions regarding specific requirements for the LSAA and the LADAC certification, contact the New Mexico Counseling and Therapy Practice Board (NMCTPB) at [www.rld.state.nm.us](http://www.rld.state.nm.us) or (505) 476-4610.

This certificate can also be embedded in the Human Services associate degree as program electives allowing students to earn a certificate in substance abuse counseling within their degree.

Professionals in the fields of Social Work and Counseling may be interested in taking the certificate coursework to qualify to become a LADAC or to earn the required Continuing Education Units (CEUs) required to maintain their professional licenses.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

- HSV 1101 - Clinical Evaluation of Substance Abuse and Treatment **3 credit hour(s)**
- HSV 1102 - Case Management for Substance Abuse Counseling **2 credit hour(s)**
- HSV 1103 - Motivational Interviewing **1 credit hour(s)**
- HSV 2201 - Evidence-based Treatment for Substance Abuse Counseling **3 credit hour(s)**
- HSV 2202 - Ethics & Professionalism in Substance Abuse Counseling: Theory and Lab **3 credit hour(s)**
- PSY 1150 - Drug Abuse and Treatment **3 credit hour(s)**
- PSY 2250 - Introduction to Counseling in the Substance Abuse Field **3 credit hour(s)**

## Certificate of Completion, Substance Abuse Counselor Certificate 18 credit hours

## Integrated Studies

### Integrated Studies, Associate of Applied Science

#### School of Business & Information Technology (BIT)

The Associate of Applied Science in Integrated Studies provides a degree designed for students who want to package a variety of job-related skills in order to achieve advancement and/or marketability in the workplace. This degree is not intended for transfer. Students with multiple credit hours may benefit from this degree path. This program cannot be a student's second or subsequent degree.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- **Choice Requirement 3-4 credit hour(s)**

### Term 2

- **Choice Requirement 3-4 credit hour(s)**
- **Unspecified Electives 6 credit hour(s)\***
- ENG 1101 - College Writing **3 credit hour(s)**

### Term 3

- **Unspecified Electives 12 credit hour(s)\***

### Term 4

- **Unspecified Electives 12 credit hour(s)\***

### Term 5

- **Unspecified Electives 12 credit hour(s)\***

## Note

\* Unspecified Electives: Any Course Numbered 1000 or Above

## Associate of Applied Science in Integrated Studies 60-63

# Latin American Studies

## Latin American Studies, Associate of Arts

### School of Communication, Humanities & Social Sciences (CHSS)

Latin American Studies is an interdisciplinary degree providing a foundation for understanding the Latin American region through cultural anthropology, history, geography, language, and literature, among other disciplines. Students will gain language skills and area competences that can be valuable in business, public service or further professional training. The program features opportunities such as Study Abroad, collaboration with University of New Mexico's Latin American Studies programs and activities, and Service Learning.

This program is designed for transfer to Latin American Studies programs at the University of New Mexico or New Mexico State University.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- LTAM 1110 - Introduction to Latin American Studies **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Program Approved Elective 4 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- HIST 1181 - Early Latin American History **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3-6 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**



or

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- HIST 1182 - Modern Latin American History **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3-6 credit hour(s)**

#### Term 4

- ANTH 2222 - Ancient Mesoamerica **3 credit hour(s)**
- or
- LTAM 1111 - Latin American Film **3 credit hour(s)**
- or
- SOC 2221 - Global Issues **3 credit hour(s)**
- **Elective 9 credit hour(s)\*or**
- **Program Approved Elective 9 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)\*\***

### **Associate of Arts in Latin American Studies 60-67 credit hours**

\* These courses are recommended for transfer to the Latin American Studies Program at the University of New Mexico: ECON 2203, PSCI 2240, SPAN 2280, and/or SUST 1134. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\*\* Recommended: ARTH 2202 or ARTH 2251 for for transfer to UNM's Latin American Studies program.

#### Program Approved Electives

- ANTH 2222 - Ancient Mesoamerica **3 credit hour(s)**
- BA 2100 - Basics of Global Business **3 credit hour(s)**
- LTAM 1111 - Latin American Film **3 credit hour(s)**
- LTAM 2096-2996 - Special Topics **1-6 credit hour(s)**
- PORT 1101 - Beginning Portuguese I **4 credit hour(s)**
- PORT 1102 - Beginning Portuguese II **4 credit hour(s)**
- SOC 2221 - Global Issues **3 credit hour(s)**
- SPAN 1101 - Beginning Spanish **4 credit hour(s)**
- SPAN 1102 - Beginning Spanish II **4 credit hour(s)**
- SPAN 1103 - Beginning Spanish I Conversation **3 credit hour(s)**
- SPAN 1111 - Heritage Spanish Language **4 credit hour(s)**
- SPAN 1112 - Heritage Spanish Language II **4 credit hour(s)**
- SPAN 2096-2996 - Special Topics **3 credit hour(s)**
- SPAN 2201 - Intermediate Spanish I **3 credit hour(s)**
- SPAN 2202 - Intermediate Spanish II **3 credit hour(s)**
- SPAN 2203 - Intermediate Spanish II Conversation **3 credit hour(s)**
- SPAN 2277 - The Art and Skill of Translation **3 credit hour(s)**
- SPAN 2280 - Introduction to Hispanic Literature **3 credit hour(s)**
- SPAN 2375 - Accelerated Beginning Spanish **6 credit hour(s)**
- SPAN 2376 - Accelerated Intermediate Spanish **6 credit hour(s)**

### **Liberal Arts**

# General Studies, Certificate of Completion

## School of Communication, Humanities & Social Sciences (CHSS)

This certificate covers the general education curriculum of 35-36 credit hours, which is accepted by all New Mexico state colleges and universities as the general education core for degree completion on the pathway to a two or four year degree. The certificate is embedded in the Liberal Arts degree, and can be used toward any associate of arts or associate of science degree at CNM.

Please contact an Academic Coach for information about available classes.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 3

- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Sciences Requirement 4 credit hour(s)**
- **Social Behavioral Science Requirement 3 credit hour(s)**

## Certificate of Completion in General Studies 35-36 credit hours

## Liberal Arts, Associate of Arts

### School of Communication, Humanities & Social Sciences (CHSS)

The Associate of Arts in Liberal Arts is both a stand-alone degree and a transfer degree. For students transferring to four-year schools, it covers the curriculum needed for the first s of baccalaureate study. The degree includes a general education curriculum of 35-38 credit hours, which is accepted by all New Mexico state colleges and universities as the general education core for degree completion.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s) 3 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Elective 3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

### Term 4

- **Elective 15 credit hour(s)**

## Associate of Arts in Liberal Arts 60-61 credit hours

This information is meant to serve as a general guide for students intending to transfer to a four-year school. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four-year transfer school to confirm specific admission and degree requirements.

### Sustainability Transfer Track

Students seeking the Sustainability Minor at UNM are encouraged to take a combination of the following classes up to 15 credits, including SUST 1134 to complete the lower division requirements for the Minor.\*

- SUST 1134 - Introduction to Sustainability: Environment, Society, and Economy **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- CRP 1165 - Introduction to Community and Regional Planning **3 credit hour(s)**
- CRP 1181 - Introduction to Environmental Problems **3 credit hour(s)**
- CRP 2265 - Sustainable Community Planning Methods **3 credit hour(s)**
- CST 1182 - Environment, Science & Technology **3 credit hour(s)**
- ECON 2200 - Macroeconomics **3 credit hour(s)**
- ECON 2201 - Microeconomics **3 credit hour(s)**
- ECON 2203 - Society and the Environment **3 credit hour(s)**
- EPS 1101 - Introduction to Geology **3 credit hour(s)**
- EPS 1192 - Introduction to Geology Laboratory **1 credit hour(s)**
- GEOG 1101 - Physical Geography **3 credit hour(s)**

- GEOG 1950 - Humans' Role in Changing the Face of the Earth **3 credit hour(s)**
- PSCI 2200 - U.S. Politics **3 credit hour(s)**
- PSCI 2240 - International Politics **3 credit hour(s)**
- PSCI 2260 - Political Ideas **3 credit hour(s)**
- PSCI 2270 - Introduction to Public Policy **3 credit hour(s)**
- PSCI 2280 - Introduction to Political Analysis **3 credit hour(s)**
- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**
- SOC 2211 - Social Problems **3 credit hour(s)**
- SOC 2221 - Global Issues **3 credit hour(s)**

\* **SUST 1134 required for Sustainability minor at UNM**

## Machine Tool Technology

### Machine Tool Technology, Associate of Applied Science

#### School of Applied Technologies (AT)

Students will study hands-on Machine Tool and Welding Technology, which includes blueprint reading, mathematics, metallurgy and other general course work. Classes include classroom and lab time. This program combines the advanced and the proven processes of the manufacturing skill set needed to gain and succeed the industry of Machine Tools. Upon completion of this program, graduates will be eligible for entry level employment in a variety of industrial careers.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- MATT 1001 - Metals Math I **2 credit hour(s)**
- MATT 1005 - Metals Blueprint Reading I **2 credit hour(s)**
- MATT 1110 - Basic Lathe Principles **2 credit hour(s)**
- MATT 1120 - Basic Milling Machine Principles **2 credit hour(s)**
- MATT 1130 - Basic Supporting Machine Tool Principles **2 credit hour(s)**
- MATT 1140 - Basic Measurement and Inspection **2 credit hour(s)**

##### Term 2

- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATT 1030 - Metals Math II **2 credit hour(s)**
- MATT 1035 - Metals Blueprint Reading II **2 credit hour(s)**
- MATT 1210 - Intermediate Lathe Principles **2 credit hour(s)**
- MATT 1220 - Intermediate Milling Machine Principles **2 credit hour(s)**
- MATT 1230 - Intermediate Supporting Machine Tool Principles **2 credit hour(s)**
- MATT 1240 - Computer Numerical Control I **2 credit hour(s)**

##### Term 3

- MATT 1065 - Metallurgy **2 credit hour(s)**
- MATT 2005 - Machine Tool Technology CAD/CAM **2 credit hour(s)**

- MATT 2010 - Advanced Lathe Principles **2 credit hour(s)**
- MATT 2020 - Advanced Milling Machine Principles **2 credit hour(s)**
- MATT 2030 - Advanced Supporting Machine Tool Principles **2 credit hour(s)**
- MATT 2040 - Computer Numerical Control II **2 credit hour(s)**

#### Term 4

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- MATT 2140 - Advanced Computer Numerical Control **2 credit hour(s)**
- **Program Approved Electives 3 credit hours**

#### Term 5

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Humanities/Fine Arts Elective 3 credit hour(s)**  
or
- **Social/Behavioral Science Elective 3 credit hour(s)**
- MATT 1060 - Machine Tool Technology Skills **3 credit hour(s)**
- MATT 2999 - Machine Tool Technology Capstone Course **1 credit hour(s)**

## Associate of Applied Science in Machine Tool Technology 60-61 credit hours

### Program Approved Electives

- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- AT 1010 - Applied Technologies in Construction **3 credit hour(s)**
- AT 1096 - 1996 - Special Topics **1 - 9 credit hour(s)**
- MATT 2096-2996 - Special Topics **1-7 credit hour(s)**
- RPID 1010 - Design and Simulation **3 credit hour(s)**
- RPID 1005 - 3 Dimensional CAD **3 credit hour(s)**
- RPID 1015 - Prototype Fabrication I **3 credit hour(s)**
- RPID 1020 - Prototype Fabrication II **3 credit hour(s)**
- WELD 1062 - Welding Fundamentals **3 credit hour(s)**

## Machine Tool Technology, Certificate of Completion

### School of Applied Technologies (AT)

Students will study hands-on machine tool technology, which includes blueprint reading mathematics, metallurgy and other general course work. Classes include classroom and lab time. Students will safely operate a diverse selection of Manual and Automated machine tools. Students will also use computers and three different Computer Aided Design software programs, CAD/CAM to draw machine parts from two- dimensional drawings to three-dimensional automated tool paths. Students will successfully manufacture parts using Computer-Numerical Controlled (CNC) machine tools. Upon completion of this program, graduates will be eligible for entry level machinist positions in a wide variety of industrial applications.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- MATT 1001 - Metals Math I **2 credit hour(s)**
- MATT 1005 - Metals Blueprint Reading I **2 credit hour(s)**
- MATT 1110 - Basic Lathe Principles **2 credit hour(s)**
- MATT 1120 - Basic Milling Machine Principles **2 credit hour(s)**
- MATT 1130 - Basic Supporting Machine Tool Principles **2 credit hour(s)**
- MATT 1140 - Basic Measurement and Inspection **2 credit hour(s)**

### Term 2

- MATT 1030 - Metals Math II **2 credit hour(s)**
- MATT 1035 - Metals Blueprint Reading II **2 credit hour(s)**
- MATT 1210 - Intermediate Lathe Principles **2 credit hour(s)**
- MATT 1220 - Intermediate Milling Machine Principles **2 credit hour(s)**
- MATT 1230 - Intermediate Supporting Machine Tool Principles **2 credit hour(s)**
- MATT 1240 - Computer Numerical Control I **2 credit hour(s)**

### Term 3

- MATT 1065 - Metallurgy **2 credit hour(s)**
- MATT 2010 - Advanced Lathe Principles **2 credit hour(s)**
- MATT 2005 - Machine Tool Technology CAD/CAM **2 credit hour(s)**
- MATT 2020 - Advanced Milling Machine Principles **2 credit hour(s)**
- MATT 2030 - Advanced Supporting Machine Tool Principles **2 credit hour(s)**
- MATT 2040 - Computer Numerical Control II **2 credit hour(s)**

## Certificate of Completion in Machine Tool Technology 36 credit hours

## Mathematics

### Mathematics, Associate of Science

#### School of Math, Science & Engineering (MSE)

Students majoring in Mathematics study the results of quantitative and logical reasoning. Interested students can learn about career opportunities and pathways in Mathematics and related fields from the Mathematical Association of America.

This program is designed to meet the requirements for an Associate of Science in Mathematics from CNM and prepare a student to obtain a Bachelor's degree in Mathematics at the University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the UNM Department of Mathematics and Statistics. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- (MATH 1410 and MATH 1415) or MATH 1530
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

## Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**

## Term 2

- CSCI 1153 - Programming in Matlab **4 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4-5 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**

## Term 3

- **Program Approved Elective 3-4 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- MATH 2710 - Calculus III **4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 4

- **Program Approved Elective 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Science in Mathematics 60-63 credit hours

Most students satisfy Program Approved Elective requirements by completing coursework specific to a Bachelor's degree in Mathematics at a university and transferring it back to CNM as MATH 2088. It is strongly recommended that students meet with an advisor at their intended transfer university as well as the School of Math, Science and Engineering (MSE) at CNM before selecting Program Approved Electives. Students may find the other courses specified in this list useful in preparing for upper division coursework required for a Bachelor's degree in Mathematics. However, some 4-year institutions, including UNM, may not apply these courses towards a Bachelor's degree in Mathematics.

### Program Approved Electives

- CSCI 2201 - Mathematical Foundations of Computer Science **4 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- MATH 2088 - Math Specialty **1-12 credit hour(s)**
- MATH 2810 - Applied Linear Algebra **3 credit hour(s)**
- MATH 2910 - Applied Ordinary Differential Equations **3 credit hour(s)**

## Medical Laboratory Sciences

### Medical Laboratory Technician, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

The MLT program is an associate degree with general education prerequisites. Medical Laboratory Technicians perform highly complex testing in the areas of clinical chemistry, hematology, immunohematology, immunology, microbiology, and urinalysis. They must exhibit high levels of judgment and responsibility. The MLT program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences: 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119; naaccls.org.

Medical Laboratory Science programs prepare students to play a crucial role in the detection, diagnosis, and treatment of disease.

Medical laboratory personnel work in clinics, hospitals, reference laboratories, and physician office labs. They safely collect, process, and analyze blood and body fluid specimens. They use microscopes, centrifuges, computerized instruments, and other sophisticated laboratory equipment. The complexity of tests performed, the level of judgment needed, and the amount of responsibility workers assume depends largely on the amount of education they have. Students study theory in the classroom, learn skills in campus labs, and complete clinical experiences in area health care facilities and labs. Upon completion of the programs, students are eligible to take national certification exams.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- Coordinated Entry Program
- HLTH 1001
- MATH 1210 or MATH 1310
- Reading & Writing Proficiency 2

## Required Sequence of Courses

**This is a Coordinated Entry Program** This program's first term courses are typically offered in the fall term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

### Term 1

- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
  
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
**and**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**  
**or**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**  
**and**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**  
**and**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**  
**and**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
  
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MLT 1001 - Preparation for Medical Lab Sciences **3 credit hour(s)**

### Term 2

- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**

### Term 3

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**



- CHEM 2210 - Organic Chemistry and Biochemistry **4 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)\***

- MLT 1270 - Phlebotomy Skills for MLT **2 credit hour(s)**  
or
- PHLB 1010 - Phlebotomy Theory **3 credit hour(s)**  
and
- PHLB 1092 - Phlebotomy Lab **2 credit hour(s)**

#### Term 4 (Coordinated Entry - Typically Offered Fall Only)

- MLT 1012 - Clinical Urinalysis **1 credit hour(s)**
- MLT 1092 - Clinical Urinalysis Laboratory **1 credit hour(s)**
- MLT 1390 - Clinical Experience Phlebotomy Skills **1 credit hour(s)**  
or
- PHLB 1090 - Clinical Phlebotomy **2 credit hour(s)**
- MLT 1510 - Clinical Hematology **3 credit hour(s)**
- MLT 1592 - Clinical Coagulation Laboratory **1 credit hour(s)**
- MLT 1692 - Clinical Hematology Laboratory **2 credit hour(s)**
- MLT 2011 - Clinical Chemistry **3 credit hour(s)**
- MLT 2092 - Clinical Chemistry Laboratory **1 credit hour(s)**

#### Term 5 (Typically Offered Spring Only)

- MLT 1014 - Immunology **1 credit hour(s)**
- MLT 1192 - Clinical Immunology Laboratory **1 credit hour(s)**
- MLT 1511 - Clinical Immunohematology **2 credit hour(s)**
- MLT 1792 - Clinical Immunohematology Laboratory **2 credit hour(s)**
- MLT 2010 - MLT Microbiology **3 credit hour(s)**
- MLT 2592 - Clinical Microbiology Laboratory **3 credit hour(s)**

#### Term 6 (Typically Offered Summer Only)

- MLT 2790 - MLT Clinical Experience **7 credit hour(s)**
- MLT 2712 - Advanced MLT Topics and Exam Preparation **1 credit hour(s)**

## Associate of Applied Science in Medical Laboratory Technician 72-80 credit hours

\* COMM 2221 recommended for students transferring to the BS MLS program at UNM

## Phlebotomy Technician, Certificate of Achievement

### School of Health, Wellness & Public Safety (HWPS)

Phlebotomists collect and process blood specimens using approved venipuncture and capillary puncture techniques. Requires a high level of professionalism when working with patients.

Phlebotomists work in clinics, hospitals and physician office labs. They safely collect and process blood and body fluid specimens. High levels of professionalism and ethics are necessary when interacting with patients. Students study theory in the classroom, learn skills in campus labs, and complete clinical experiences in area health care facilities and labs. Upon completion of the programs, students are eligible to take national certification exams. The CNM PHLB and MLT programs are articulated, certain MLT courses will be waived for PHLB graduates. A formal articulation agreement between CNM and UNM facilitates the transfer of credit received from the Associate

of Applied Science MLT Degree to the Medical Laboratory Sciences Program at the University of New Mexico. CNM also offers a Pre-Health Sciences AA Degree.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- HLTH 1001
- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Learning Community 1-Term Option

#### Term 1

- MLT 1001 - Preparation for Medical Lab Sciences **3 credit hour(s)**
- PHLB 1010 - Phlebotomy Theory **3 credit hour(s)**
- PHLB 1090 - Clinical Phlebotomy **2 credit hour(s)**
- PHLB 1092 - Phlebotomy Lab **2 credit hour(s)**

Or

### Learning Community 2-Term Option

#### Term 1

- MLT 1001 - Preparation for Medical Lab Sciences **3 credit hour(s)**
- PHLB 1010 - Phlebotomy Theory **3 credit hour(s)**
- PHLB 1092 - Phlebotomy Lab **2 credit hour(s)**

#### Term 2

- PHLB 1090 - Clinical Phlebotomy **2 credit hour(s)**

## Certificate of Achievement in Phlebotomy Technician 10 credit hours

## Modern Languages

### Modern Languages (AA), Spanish Concentration

#### School of Communication, Humanities & Social Sciences (CHSS)

Modern Languages courses develop listening, reading, and writing skills in the learning of languages other than English. Spanish, Portuguese, French and Arabic are some of the most widely spoken languages in the world. This program is useful for both the new and heritage speaker.

This program is designed to meet the requirements of an Associate of Arts in Modern Languages from CNM and prepare a student to obtain a Bachelor of Arts at the University of New Mexico or New Mexico State University. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **Mathematics Requirement 3-4 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Program Approved Elective 4-6 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 4-6 credit hour(s)**

### Term 3

- **Modern Language Elective 4 credit hour(s)\***
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- Program Approved Elective **3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)\***
- Program Approved Elective **6 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Arts in Modern Languages, Spanish Concentration 60-66 credit hours

\* Any Arabic (ARBC), French (FREN), or Portuguese (PORT)

### Program Approved Electives

- SPAN 1101 - Beginning Spanish **4 credit hour(s)**
- SPAN 1102 - Beginning Spanish II **4 credit hour(s)**
- SPAN 1103 - Beginning Spanish I Conversation **3 credit hour(s)**
- SPAN 1111 - Heritage Spanish Language **4 credit hour(s)**
- SPAN 1112 - Heritage Spanish Language II **4 credit hour(s)**
- SPAN 2096-2996 - Special Topics **3 credit hour(s)**
- SPAN 2201 - Intermediate Spanish I **3 credit hour(s)**
- SPAN 2202 - Intermediate Spanish II **3 credit hour(s)**
- SPAN 2203 - Intermediate Spanish II Conversation **3 credit hour(s)**
- SPAN 2277 - The Art and Skill of Translation **3 credit hour(s)**
- SPAN 2280 - Introduction to Hispanic Literature **3 credit hour(s)**
- SPAN 2375 - Accelerated Beginning Spanish **6 credit hour(s)**

- SPAN 2376 - Accelerated Intermediate Spanish **6 credit hour(s)**

## Spanish Language, Certificate of Completion

### School of Communication, Humanities & Social Sciences (CHSS)

This certificate is designed to demonstrate proficiency in Spanish for professional use in the workplace, neighborhood and community activities, and in working with the public.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

### Beginning/Heritage Track

#### Program Approved Elective **4 credit hour(s)**

- SPAN 1101 - Beginning Spanish **4 credit hour(s)**  
or
- SPAN 1111 - Heritage Spanish Language **4 credit hour(s)**
- SPAN 1102 - Beginning Spanish II **4 credit hour(s)**  
or
- SPAN 1112 - Heritage Spanish Language II **4 credit hour(s)**
- SPAN 2201 - Intermediate Spanish I **3 credit hour(s)**
- SPAN 2202 - Intermediate Spanish II **3 credit hour(s)**

### Or Accelerated Track

#### Program Approved Elective **6 credit hour(s)**

- SPAN 2375 - Accelerated Beginning Spanish **6 credit hour(s)**
- SPAN 2376 - Accelerated Intermediate Spanish **6 credit hour(s)**

## Certificate of Completion in Spanish Language 18 credit hours

### Program Approved Electives

- SPAN 1104 - Spanish for Medical Professionals **3 credit hour(s)**
- SPAN 2096-2996 - Special Topics **3 credit hour(s)**
- SPAN 2204 - Spanish Language in Film **1 credit hour(s)**
- SPAN 2277 - The Art and Skill of Translation **3 credit hour(s)**
- SPAN 2280 - Introduction to Hispanic Literature **3 credit hour(s)**

## Nursing

### Nurse Refresher

#### School of Health, Wellness & Public Safety (HWPS)

Provide nurses with an opportunity to update their knowledge and skills of pharmacology, dosage calculation and medical surgical nursing

Provide nurses with an opportunity to update their practice in a medical surgical or skilled nursing facility

## Courses

- NR 2110 - Nursing Refresher Course **7 credit hour(s)**
- NR 2190 - Nurse Refresher Clinical Application **2 credit hour(s)**

## Nursing (AAS), LPN Mobility Concentration

### School of Health, Wellness & Public Safety (HWPS)

This program allows qualified licensed practical nurses to complete their Associate of Applied Science in Nursing (AASN) degree by entering into the second term of the Nursing (AAS), NMNEC concentration program. Graduates of the program meet the requirements set by the New Mexico State Board of Nursing to take the NCLEX-RN licensing examination. Specific terms of licensure can be obtained through the New Mexico Board of Nursing.

The Nursing (NMNEC) option emphasizes a holistic approach that encourages students to embrace the concepts of clear communication, critical thinking and compassion when caring for patients. Our curriculum includes classroom, laboratory, and supervised clinical instruction that combines an essential set of arts and sciences classes with the nursing courses. The AASN program is accredited through the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- Math Proficiency 2 or Math Proficiency 3 (**Recommended**) \*
- Reading & Writing Proficiency 2
- Biology Proficiency

## Required Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s) (MATH 1330 recommended) \***
- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)\*\***
- BIO 2710 - Pathophysiology I **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)\*\* \*\***

### Term 2

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2711 - Pathophysiology II **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- PSY 2220 - Developmental Psychology **3 credit hour(s)**

### Term 3

- NRSG 1510 - Health and Illness Concepts I **3 credit hour(s)**
- NRSG 1520 - Health Care Participant **3 credit hour(s)**
- NRSG 1530 - Nursing Pharmacology **3 credit hour(s)**
- NRSG 1535 - Assessment and Health Promotion **4 credit hour(s)**
- NRSG 1584 - Concepts for Transition Students **2 credit hour(s)**

### Term 4

- NRSB 2010 - Health & Illness Concepts II **3 credit hour(s)**
- NRSB 2020 - Professional Nursing Concepts **3 credit hour(s)**
- NRSB 2090 - Care of Patients with Chronic Conditions **4 credit hour(s)**

## Term 5

- NRSB 2510 - Health & Illness Concepts **4 credit hour(s)**
- NRSB 2515 - Clinical Intensive I **4 credit hour(s)**
- NRSB 2899 - ADN Capstone **2 credit hour(s)**

## Associate of Applied Science in Nursing, LPN Mobility Concentration 63-64 credit hours

\* Recommended for students pursuing the NMNEC BSN.

\*\* BIO 2210 Anatomy and Physiology I must be taken before BIO 2310 Anatomy and Physiology II.

\*\*\* PSY 1105 Introduction to Psychology must be taken before PSY 2220 Developmental Psychology II.

## Nursing (AAS), NMNEC Concentration

### School of Health, Wellness & Public Safety (HWPS)

All CNM nursing courses emphasize a holistic approach that encourages students to embrace the concepts of clear communication, critical thinking and compassion when caring for patients. The Nursing program curriculum includes classroom, laboratory, and supervised clinical instruction that combines an essential set of arts and sciences classes with the nursing courses.

CNM offers the common New Mexico Nursing Education Consortium (NMNEC) curriculum.

Graduates of the Associate of Applied Science in Nursing (AASN) program meet the requirements set by the New Mexico State Board of Nursing to take the NCLEX-RN licensing examination. Specific terms of licensure can be obtained through the New Mexico Board of Nursing.

The AASN program is accredited through the Accreditation Commission for Education in Nursing (ACEN) (formerly the National League for Nursing Accrediting Commission). This program is a participating member in the New Mexico Nursing Education Consortium (NMNEC).

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- HESI A2 Exam
- Math Proficiency 2 **or** Math Proficiency 3 (**Recommended**) \*
- Reading & Writing Proficiency 2
- Biology Proficiency

## Required Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s) (MATH 1330 Recommended) \***
- ENG 1101 - College Writing **3 credit hour(s)**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)\*\***
- PSY 1105 - Introduction to Psychology **3 credit hour(s)\*\*\***

### Term 2

- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2710 - Pathophysiology I **3 credit hour(s)**
- PSY 2220 - Developmental Psychology **3 credit hour(s)**

### Term 3

- BIO 2711 - Pathophysiology II **3 credit hour(s)**
- NRSG 1010 - Introduction to Nursing Concepts **3 credit hour(s)**
- NRSG 1015 - Principles of Nursing Practice **4 credit hour(s)**

### Term 4

- NRSG 1510 - Health and Illness Concepts I **3 credit hour(s)**
- NRSG 1520 - Health Care Participant **3 credit hour(s)**
- NRSG 1530 - Nursing Pharmacology **3 credit hour(s)**
- NRSG 1535 - Assessment and Health Promotion **4 credit hour(s)**

### Term 5

- NRSG 2010 - Health & Illness Concepts II **3 credit hour(s)**
- NRSG 2020 - Professional Nursing Concepts **3 credit hour(s)**
- NRSG 2090 - Care of Patients with Chronic Conditions **4 credit hour(s)**

### Term 6

- NRSG 2510 - Health & Illness Concepts **4 credit hour(s)**
- NRSG 2515 - Clinical Intensive I **4 credit hour(s)**
- NRSG 2899 - ADN Capstone **2 credit hour(s)**

## Associate of Applied Science in Nursing 68-69 credit hours

\* Recommended for students pursuing the NMNEC BSN.

\*\* BIO 2210 Anatomy and Physiology I must be taken before BIO 2310 Anatomy and Physiology II.

\*\*\* PSY 1105 Introduction to Psychology must be taken before PSY 2220 Developmental Psychology.

## Nursing Assistant

### Nursing Assistant, Certificate of Achievement

#### School of Health, Wellness & Public Safety (HWPS)

Students are provided instruction in the roles and responsibilities of the Nursing Assistant. Body structure and function, infection prevention, nutrition, principles of growth and development, safety in healthcare, home health care, and care of the older person are some of the topics emphasized. Instruction and practice of basic patient care skills required for Nursing Assistants is provided. Skills practiced include patient assistance with activities of daily living, personal care, transfer and positioning, vital sign measurement, intake and output measurement, restorative care, and communication. Students will practice supervised basic patient care in a clinical setting prior to completion of the program. At the completion of this certificate, students are eligible to take the New Mexico State certification exam to become a Certified Nursing Assistant (CNA).

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

### Required Sequence of Courses

- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- NA 1020 - Principles of Nursing Assistant **3 credit hour(s)**

- NA 1093 - Principles of Nursing Assistant Lab **2 credit hour(s)**
- NA 1190 - Nursing Assistant Clinical **1 credit hour(s)**

## Certificate of Achievement in Nursing Assistant **7 credit hours**

### Nutrition

#### Dietary Manager, Certificate of Completion

##### School of Math, Science & Engineering (MSE)

Dietary Managers work with registered dietitians to provide quality food production, service, and nutritional care and are an integral part of health care and food service management teams.

The Dietary Manager Certificate of Completion program prepares students to manage the administration of food service systems in both public and private institutional settings. The program focuses on the principles and practices of human nutrition, food safety, the design and organization of food service systems, purchasing, and personnel management. Coursework includes classroom and lab time, with students completing 180 hours of supervised practice in accredited facilities.

See Recommended Sequence of Courses

Upon completion of the program, students will be eligible to sit for the Association of Nutrition and Foodservice Professionals' national exam and earn the CDM (Certified Dietary Manager) and CFPP (Certified Food Protection Professional) credentials. The CDM and CFPP are nationally recognized as experts in managing dietary operations.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- CULN 1003 - Food Safety Principles **1 credit hour(s)**
- CULN 1010 - Food Production Fundamentals **3 credit hour(s)**  
**or**
- CULN 1100 - Introduction to Culinary Skills **3 credit hour(s)**  
**and**
- CULN 1110 - Culinary Skills **4 credit hour(s)**
- NUTR 1010 - Personal and Practical Nutrition **3 credit hour(s)**
- NUTR 1015 - Introduction to Medical Nutrition Therapy **3 credit hour(s)**
- NUTR 1090 - Dietary Manager Internship I **2 credit hour(s)**

##### Term 2

- HT 2201 - Hospitality Operations Management **3 credit hour(s)**
- NUTR 1091 - Dietary Manager Internship II **2 credit hour(s)**
- HT 2215 - Purchasing and Cost Controls **3 credit hour(s)**  
**or**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**  
**or**



- NUTR 1020 - Sports Nutrition **3 credit hour(s)**  
or
- SPAN 1101 - Beginning Spanish **4 credit hour(s) or higher**

## Certificate in Dietary Manager 20-25 credit hours

### Nutrition, Associate of Science

#### School of Math, Science & Engineering (MSE)

Students majoring in Nutrition examine the role of food and nutrition in overall health and disease prevention with an emphasis on the metabolic and physiological responses of the body to diet. Interested students can learn about career opportunities and pathways in Nutrition and related fields from the Academy of Nutrition and Dietetics.

This program is designed to meet the requirements for an Associate of Science in Nutrition from CNM and prepare a student to obtain a Bachelor of Science in Nutrition and Dietetics at the University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the Department of Individual, Family, and Community Education - Nutrition/Dietetics Program. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**

##### Term 2

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Approved Fine Arts Elective 3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- **Approved Social/Behavioral Sciences Elective 3 credit hour(s)**

##### Term 3

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- **Approved Humanities Elective 3 credit hour(s)**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

## Term 4

- CHEM 2710 - Organic Chemistry I **3 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- ENG 2219 - Technical Writing **3 credit hour(s)**
- **Approved Modern Language Elective 3 credit hour(s)**
- **Approved Humanities Elective 3 credit hour(s)**

## Associate of Science in Nutrition 65 credit hours

### Program Approved Electives

#### Fine Arts

- ARTH 1101 - Introduction to Art **3 credit hour(s)**
- ARTH 2201 - History of Art I **3 credit hour(s)**
- ARTH 2202 - History of Art II **3 credit hour(s)**
- MUS 1139 - Early Music Appreciation **3 credit hour(s)**
- MUS 1140 - Modern Music Appreciation **3 credit hour(s)**
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**

#### Humanities

- ENG 1150 - Study Of Literature **3 credit hour(s)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**
- HIST 1102 - Western Civilization II **3 credit hour(s)**
- HIST 1161 - History of the United States I **3 credit hour(s)**
- HIST 1162 - History of the United States II **3 credit hour(s)**
- PHIL 1110 - Introduction to Philosophical Thought **3 credit hour(s)**
- RLGN 1107 - Living World Religions **3 credit hour(s)**
- RLGN 2263 - Eastern Religions **3 credit hour(s)**

#### Modern Language

- FREN 1101 - Beginning French I **4 credit hour(s)**
- FREN 1102 - Beginning French II **4 credit hour(s)**
- FREN 2201 - Intermediate French **4 credit hour(s)**
- FREN 2202 - Intermediate French II **4 credit hour(s)**
- SPAN 1101 - Beginning Spanish **4 credit hour(s)**
- SPAN 1102 - Beginning Spanish II **4 credit hour(s)**
- SPAN 1103 - Beginning Spanish I Conversation **3 credit hour(s)**
- SPAN 1111 - Heritage Spanish Language **4 credit hour(s)**
- SPAN 1112 - Heritage Spanish Language II **4 credit hour(s)**
- SPAN 2201 - Intermediate Spanish I **3 credit hour(s)**
- SPAN 2202 - Intermediate Spanish II **3 credit hour(s)**
- SPAN 2203 - Intermediate Spanish II Conversation **3 credit hour(s)**
- SPAN 2375 - Accelerated Beginning Spanish **6 credit hour(s)**
- SPAN 2376 - Accelerated Intermediate Spanish **6 credit hour(s)**

#### Social/Behavioral Sciences

- ANTH 1101 - Intro Anthropology **3 credit hour(s)**

- ANTH 1110 - Language Culture and the Human Animal **3 credit hour(s)**
- ANTH 1130 - Cultures of the World **3 credit hour(s)**
- ECON 2200 - Macroeconomics **3 credit hour(s)**
- ECON 2201 - Microeconomics **3 credit hour(s)**
- GEOG 1102 - Human Geography **3 credit hour(s)**
- PSCI 1110 - The Political World **3 credit hour(s)**
- PSCI 2200 - U.S. Politics **3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

## Office Technology

### Medical Office Receptionist, Certificate of Completion

#### School of Business & Information Technology (BIT)

The Medical Office Receptionist program offers entry-level office-related skills for students who desire to begin a career quickly in a medical office. Students acquire basic English, computer, word processing, telephone and interpersonal skills as well as medical terminology.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

#### Recommended Sequence of Courses

##### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**
- OTEC 1161 - Records and Information Management **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

##### Term 2

- CIS 1120 - Microsoft Word **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**
- OTEC 1125 - Writing, Proofreading and Editing **3 credit hour(s)**
- OTEC 1175 - Computers in the Medical Office **2 credit hour(s)**
- **Program Approved Elective 2-3 credit hour(s)**

### Certificate of Completion in Medical Office Receptionist 31-32 credit hours

#### Program Approved Electives

- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 1150 - MS Outlook **1 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**
- **Modern Language Elective 3-4 credit hour(s)**

- OTEC 1096-1996 - Special Topics **1-3 credit hour(s)\***  
or
- OTEC 2096-2996 - Special Topics **1-3 credit hour(s)\***
- OTEC 2095 - Cooperative Education **3 credit hour(s)**
- OTEC 2097 - Independent Study **1-6 credit hour(s)**
- OTEC 2098 - Internship **3 credit hour(s)**
- OTEC 2201 - Document Production and Integration **3 credit hour(s)**
- OTEC 2270 - Medical Transcription **3 credit hour(s)**

\* **Maximum 3 Special Topics credits allowed**

## Medical Office Transcription, Certificate of Completion

### School of Business & Information Technology (BIT)

The Medical Transcription program offers entry-level skills for students who desire to begin a career quickly in a medical office. Students acquire skills in medical terminology, anatomy, physiology, and disease processes, proficiency in English grammar, usage, and punctuation as it relates to the field of medical transcription.

**Note:** *The courses in this program may be applied toward an Office Technology certificate or Associate of Applied Science degree.*

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**

#### Term 2

- CIS 1120 - Microsoft Word **3 credit hour(s)**
- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**

#### Term 3

- OTEC 1103 - Keyboard Skillbuilding II **1 credit hour(s)**
- OTEC 2270 - Medical Transcription **3 credit hour(s)**

## Certificate of Completion in Medical Office Transcription 21 credit hours

## Office Receptionist, Certificate of Completion

### School of Business & Information Technology (BIT)

The Office Receptionist program offers entry-level, office-related skills for students who prefer to begin an office career quickly. Students acquire basic English, computer, word processing and interpersonal skills.

**Note:** *The courses in this program may be applied toward an Office Technology certificate or an Associate of Applied Science degree.*

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**
- OTEC 1161 - Records and Information Management **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

### Term 2

- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**
- ACCT 1109 - Business Math **3 credit hour(s)**
- CIS 1120 - Microsoft Word **3 credit hour(s)**
- OTEC 1125 - Writing, Proofreading and Editing **3 credit hour(s)**
- CIS 1150 - MS Outlook **1 credit hour(s)**
- **Program Approved Elective 2-3 credit hour(s)**

## Certificate of Completion in Office Receptionist 30-31 credit hours

### Program Approved Electives

- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 1145 - Microsoft PowerPoint **2 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
  
- OTEC 1096-1996 - Special Topics **1-3 credit hour(s)\***  
**or**
- OTEC 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- OTEC 1103 - Keyboard Skillbuilding II **1 credit hour(s)**
- OTEC 1175 - Computers in the Medical Office **2 credit hour(s)**
- OTEC 2095 - Cooperative Education **3 credit hour(s)**
- OTEC 2097 - Independent Study **1-6 credit hour(s)**
- OTEC 2098 - Internship **3 credit hour(s)**
- OTEC 2201 - Document Production and Integration **3 credit hour(s)**

\* Maximum 3 Special Topics credits allowed

## Office Technology (AAS), Medical Concentration

### School of Business & Information Technology (BIT)

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, written communication and computer applications to meet the demands and expanded

responsibilities of today's administrative workforce. Individuals who have attained a Certified Professional Secretary (CPS) rating and who have successfully completed the Certified Administrative Professional (CAP) exam may receive credit hours toward the Office Technology Associate of Applied Science degree. Two concentrations are available in the Office Technology program: Medical Concentration and Office Technology Concentration. Students may contact the associate dean for more information about advanced placement.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**
- OTEC 1161 - Records and Information Management **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

### Term 2

- BA 1101 - Introduction to Business **3 credit hour(s)**
- CIS 1120 - Microsoft Word **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- OTEC 1125 - Writing, Proofreading and Editing **3 credit hour(s)**
- OTEC 1175 - Computers in the Medical Office **2 credit hour(s)**
- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**

### Term 3

- **AAS Written Communication Requirement 3 credit hour(s)**
- ACCT 1109 - Business Math **3 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**
- HIT 1030 - Health Data Content and Structure **4 credit hour(s)**
- OTEC 2201 - Document Production and Integration **3 credit hour(s)**

### Term 4

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- **Communication Elective 3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- OTEC 2260 - Office Procedures **3 credit hour(s)**
- OTEC 2270 - Medical Transcription **3 credit hour(s)**

## Associate of Applied Science in Office Technology, Medical Concentration 63-64 credit hours

### Communication Electives

- COMM 1130 - Public Speaking **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**

- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
- COMM 2280 - Gender Communication Studies **3 credit hour(s)**

## Office Technology (AAS), Office Technology Concentration

### School of Business & Information Technology (BIT)

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, written communication and computer applications to meet the demands and expanded responsibilities of today's administrative workforce. Individuals who have attained a Certified Professional Secretary (CPS) rating and who have successfully completed the Certified Administrative Professional (CAP) exam may receive credit hours toward the Office Technology Associate of Applied Science degree.

Students may contact the associate dean for more information about advanced placement.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**
- OTEC 1161 - Records and Information Management **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

#### Term 2

- ACCT 1109 - Business Math **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**
- CIS 1120 - Microsoft Word **3 credit hour(s)**
- OTEC 1125 - Writing, Proofreading and Editing **3 credit hour(s)**
- CIS 1150 - MS Outlook **1 credit hour(s)**

#### Term 3

- **AAS Written Communications Requirement 3 credit hour(s)**
- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**  
or
- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**
- CIS 1145 - Microsoft PowerPoint **2 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**
- OTEC 1103 - Keyboard Skillbuilding II **1 credit hour(s)**
- OTEC 2201 - Document Production and Integration **3 credit hour(s)**

## Term 4

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- **Communication Elective 3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- **OTEC 2260 - Office Procedures 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## **Associate of Applied Science in Office Technology, Office Technology Concentration 60-62 credit hours**

### Program Approved Electives

- ACCT 1410 - QuickBooks Complete **3 credit hour(s)**
- BIT 1005 - Survey of Business & Information Technology **3 credit hour(s)**
- CIS 1183 - Access Complete **3 credit hour(s)**
- CIS 2310 - Page Layout and Design **3 credit hour(s)**
- CIS 2340 - Dreamweaver **2 credit hour(s)**
- FIN 1010 - Financial Literacy Complete **3 credit hour(s)**
- **Foreign Language 3-4 credit hour(s)**
  
- OTEC 1096-1996 - Special Topics **1-3 credit hour(s)\***  
or
- OTEC 2096-2996 - Special Topics **1-3 credit hour(s)\***
  
- OTEC 1175 - Computers in the Medical Office **2 credit hour(s)**
- OTEC 2095 - Cooperative Education **3 credit hour(s)**
- OTEC 2097 - Independent Study **1-6 credit hour(s)**
- OTEC 2098 - Internship **3 credit hour(s)**
- OTEC 2270 - Medical Transcription **3 credit hour(s)**

**\* Maximum 3 Special Topics credits accepted toward degree**

### Communication Electives

- COMM 1130 - Public Speaking **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
- COMM 2280 - Gender Communication Studies **3 credit hour(s)**

## **Office Technology (Certificate of Completion), Medical Concentration**

### **School of Business & Information Technology (BIT)**

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of medical terminology and transcription, office procedures, interpersonal relations, office technology, written communication and computer applications to meet the demands and expanded responsibilities of today's administrative workforce. Individuals who have attained a Certified Professional Secretary (CPS) rating and who have successfully completed the Certified Administrative Professional (CAP) exam may receive credit hours toward the Office Technology Associate of Applied Science degree. Two concentrations are available in the Office Technology program: Medical Concentration and Office Technology Concentration. Students may contact the associate dean for more information about advanced placement.



## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**
- OTEC 1161 - Records and Information Management **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

### Term 2

- BA 1101 - Introduction to Business **3 credit hour(s)**
- CIS 1120 - Microsoft Word **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**
- OTEC 1125 - Writing, Proofreading and Editing **3 credit hour(s)**
- OTEC 1175 - Computers in the Medical Office **2 credit hour(s)**

### Term 3

- **AAS Written Communications Requirement 3 credit hour(s) 3 credit hour(s)**
- ACCT 1109 - Business Math **3 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**
- OTEC 2201 - Document Production and Integration **3 credit hour(s)**

## Certificate of Completion in Office Technology, Medical Concentration 44 credit hours

## Office Technology (Certificate of Completion), Office Technology Concentration

### School of Business & Information Technology (BIT)

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, written communication and computer applications to meet the demands and expanded responsibilities of today's administrative workforce. Individuals who have attained a Certified Professional Secretary (CPS) rating and who have successfully completed the Certified Administrative Professional (CAP) exam may receive credit hours toward the Office Technology Associate of Applied Science degree. Two concentrations are available in the Office Technology program: Medical Concentration and Office Technology Concentration. Students may contact the associate dean for more information about advanced placement.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- BA 1131 - Business Professionalism **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- OTEC 1101 - Beginning Keyboarding **3 credit hour(s)**
- OTEC 1161 - Records and Information Management **3 credit hour(s)**
- OTEC 1170 - Business Telephone Techniques **1 credit hour(s)**

## Term 2

- ACCT 1109 - Business Math **3 credit hour(s)**
- BA 1101 - Introduction to Business **3 credit hour(s)**
- CIS 1120 - Microsoft Word **3 credit hour(s)**
- CIS 1150 - MS Outlook **1 credit hour(s)**
- OTEC 1102 - Keyboard Skillbuilding **2 credit hour(s)**
- OTEC 1125 - Writing, Proofreading and Editing **3 credit hour(s)**

## Term 3

- **AAS Written Communication Requirement 3 credit hour(s)**
- CIS 1145 - Microsoft PowerPoint **2 credit hour(s)**
- CIS 1173 - Excel Complete **3 credit hour(s)**
- OTEC 1103 - Keyboard Skillbuilding II **1 credit hour(s)**
- OTEC 2201 - Document Production and Integration **3 credit hour(s)**

## **Certificate of Completion in Office Technology, Office Technology Concentration 43 credit hours**

# **Online Teaching and Learning**

## **Online Teaching and Learning, Certificate of Achievement**

### **School of Communication, Humanities & Social Sciences (CHSS)**

This Online Teaching and Learning certificate is designed for online instructors in K-12 and higher education settings to master best practices in online instruction. The certificate will support online instructors, independent of a specific learning platform, to use best practices in developing online curriculum and assessment and creating a strong online classroom community. Individuals will master effective use of technology and online communication tools, locating and evaluating appropriate content online, citing resources in accordance with copyright and fair use regulations, and meeting the needs of all learners by incorporating universal design techniques into online course environments.

### **Required Courses**

- TLOL 1010 - Introduction to Teaching and Learning Online **2 credit hour(s)**
- TLOL 1015 - Online Curriculum Design and Instruction **3 credit hour(s)**
- TLOL 1020 - Assessing the Online Learner **2 credit hour(s)**
- TLOL 1025 - Instructional Resources for Teaching Online **1 credit hour(s)**
- TLOL 1030 - Communication and Engagement in Online Learning **2 credit hour(s)**
- TLOL 1035 - Universal Design – Elements of Accessibility **1 credit hour(s)**

## **Certificate of Achievement in Online Teaching and Learning 11 credit hours**

# **Paralegal Studies**

## **Paralegal Studies, Associate of Applied Science**

## School of Health, Wellness & Public Safety (HWPS)

The Paralegal Studies program prepares students for careers in the legal profession. Paralegals are skilled professionals who perform substantive legal tasks under the supervision of a licensed attorney. Paralegals may not provide legal services directly to the public except as permitted by law. Responsibilities include interviewing and assisting clients and witnesses, investigation, data analysis, drafting legal documents, research, litigation support and case management. The Paralegal Studies program is approved by the American Bar Association (ABA).

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- BA 1121 - Business English **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Human Relations Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- PL 1110 - Introduction to Paralegal Studies **3 credit hour(s)**
- PL 1120 - American Law and Ethics **3 credit hour(s)**

### Term 2

- CIS 1120 - Microsoft Word **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- PHIL 1156 - Logic and Critical Thinking **3 credit hour(s)**
- PL 1130 - Torts **3 credit hour(s)**
- PL 1140 - Legal Research and Writing I **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

### Term 3

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- PL 2120 - Civil Litigation **3 credit hour(s)**
- PL 2140 - Legal Research and Writing II **3 credit hour(s)**
- PL 2150 - Evidence **3 credit hour(s)**
- PL 2160 - Law Office Management **3 credit hour(s)**

### Term 4

- **Program Approved Elective 3 credit hour(s)**
- PL 2130 - Criminal Litigation **3 credit hour(s)**
- PL 2220 - Wills Probate and Estate Planning **3 credit hour(s)**
- PL 2240 - Paralegal Computer Applications **3 credit hour(s)**
  
- PL 2098 - Internship **3 credit hour(s)**  
or
- PL 2095 - Cooperative Education **3 credit hour(s)**

## Associate of Applied Science in Paralegal Studies 66-67 credit hours

\* MATH 1315 - College Algebra recommended if planning on transferring to a 4-year degree.

## Program Approved Electives

- ACCT 1115 - Introduction to Financial Accounting **3 credit hour(s)**
- CJ 1002 - Criminal Law **3 credit hour(s)**
- CJ 1007 - Criminal Procedure **3 credit hour(s)**
- CJ 1502 - Juvenile Law and Procedure **3 credit hour(s)**
- CJ 2007 - White Collar Crimes **3 credit hour(s)**
- CJ 2515 - Criminal Investigation **3 credit hour(s)**
  
- PL 1096-1996 - Special Topics **1-3 credit hour(s)**  
**and/or**
- PL 2096-2996 - Special Topics **1-3 credit hour(s)**
  
- PL 1150 - Court Operations and Ethics **3 credit hour(s)**
- PL 2097 - Independent Study **1-9 credit hour(s)**
- PL 2415 - Business Organizations **3 credit hour(s)**
- PL 2420 - Contract Law **3 credit hour(s)**
- PL 2425 - Domestic Relations **3 credit hour(s)**
- PL 2430 - Constitutional Law **3 credit hour(s)**
- PL 2435 - Civil Litigation II **3 credit hour(s)**
- PL 2440 - Criminal Litigation II **3 credit hour(s)**
- PL 2445 - Personal Injury Law **3 credit hour(s)**
- PL 2450 - Administrative Law **3 credit hour(s)**
- PL 2455 - Employment Law **3 credit hour(s)**
- PL 2460 - Native American Law **3 credit hour(s)**
- PL 2465 - Social Security Law **3 credit hour(s)**
- PL 2470 - Bankruptcy Law **1 credit hour(s)**
- PL 2520 - Mediation **3 credit hour(s)**
- PL 2530 - Public Defender **3 credit hour(s)**

## Paralegal Studies, Post Degree Certificate of Completion

### School of Health, Wellness & Public Safety (HWPS)

Students must have a bachelor's or an associate degree from a regionally accredited college or university. Students with a prior associate of applied science degree must have at least 18 semester hours of general education coursework and must meet certain requirements for writing proficiency, oral communication skills and breadth of study. A meeting with the program director or HWPS School Advisor is required for individuals entering the Post Degree Paralegal Studies Certificate program.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **Department Approval**

### Recommended Sequence of Courses

#### Program Requirements

- BA 1121 - Business English **3 credit hour(s)**
- CIS 1120 - Microsoft Word **3 credit hour(s)**
- PL 1110 - Introduction to Paralegal Studies **3 credit hour(s)**
- PL 1120 - American Law and Ethics **3 credit hour(s)**

- PL 1130 - Torts **3 credit hour(s)**
- PL 1140 - Legal Research and Writing I **3 credit hour(s)**
  
- PL 2098 - Internship **3 credit hour(s)**  
**or**
- PL 2095 - Cooperative Education **3 credit hour(s)**
  
- PL 2120 - Civil Litigation **3 credit hour(s)**
- PL 2130 - Criminal Litigation **3 credit hour(s)**
- PL 2140 - Legal Research and Writing II **3 credit hour(s)**
- PL 2240 - Paralegal Computer Applications **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

## **Post Degree Certificate in Paralegal Studies 36 credit hours**

### **Program Approved Electives**

- PL 1096-1996 - Special Topics **1-3 credit hour(s)**  
**or**
- PL 2096-2996 - Special Topics **1-3 credit hour(s)**
  
- PL 2097 - Independent Study **1-9 credit hour(s)**
- PL 2150 - Evidence **3 credit hour(s)**
- PL 2160 - Law Office Management **3 credit hour(s)**
- PL 2220 - Wills Probate and Estate Planning **3 credit hour(s)**
- PL 2415 - Business Organizations **3 credit hour(s)**
- PL 2420 - Contract Law **3 credit hour(s)**
- PL 2425 - Domestic Relations **3 credit hour(s)**
- PL 2430 - Constitutional Law **3 credit hour(s)**
- PL 2435 - Civil Litigation II **3 credit hour(s)**
- PL 2440 - Criminal Litigation II **3 credit hour(s)**
- PL 2445 - Personal Injury Law **3 credit hour(s)**
- PL 2450 - Administrative Law **3 credit hour(s)**
- PL 2455 - Employment Law **3 credit hour(s)**
- PL 2460 - Native American Law **3 credit hour(s)**
- PL 2465 - Social Security Law **3 credit hour(s)**
- PL 2470 - Bankruptcy Law **1 credit hour(s)**
- PL 2520 - Mediation **3 credit hour(s)**
- PL 2530 - Public Defender **3 credit hour(s)**

## **Patient Care Technician**

### **Patient Care Technician, Certificate of Completion**

#### **School of Health, Wellness & Public Safety (HWPS)**

To obtain a Certificate of Completion in Patient Care Tech, students must demonstrate basic patient care competency by completing the Nursing Assistant Program or the courses required for the EMT-Basic program. This program provides students the knowledge needed to function as a Patient Care Tech in the acute care setting. Course provides instruction on medical terminology and supervised practice

of sterile technique, urinary catheterization, nasogastric tube removal, EKG lead placement, venipuncture, point of care testing and other procedures related to the care of a patient in an acute care setting.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

Students may select one of two Patient Care Technician (PCT) tracks. Students will complete either the Nursing Assistant Certificate or the EMT-Basic Certificate before starting Term 2. Note: HLTH 1001 and all courses in Term 2 are required for both tracks.

#### Nursing Assistant Track

- **HLTH 1001 - Clinical Preparation 1 credit hour(s)**
- **NA 1020 - Principles of Nursing Assistant 3 credit hour(s)**
- **NA 1093 - Principles of Nursing Assistant Lab 2 credit hour(s)**
- **NA 1190 - Nursing Assistant Clinical 1 credit hour(s)**

OR

#### EMT Basic Track

- **EMS 1053 - EMT Basic Theory 6 credit hour(s)**
- **EMS 1093 - EMT Basic Lab 2 credit hour(s)**
- **EMS 1190 - EMT Basic Clinical 1 credit hour(s)**
- **ENG 1101 - College Writing 3 credit hour(s)**
- **HLTH 1001 - Clinical Preparation 1 credit hour(s)**

### Term 2

- **PCT 1020 - Patient Care Technician 4 credit hour(s)**
- **PCT 1090 - Patient Care Tech Clinical Experience 2 credit hour(s)**
- **PCT 1092 - Patient Care Technician Lab 3 credit hour(s)**

## Certificate of Completion in Patient Care Technician 16-22 credit hours

## Pharmacy Technician

### Pharmacy Technician, Certificate of Completion

#### School of Health, Wellness & Public Safety (HWPS)

The program is designed to prepare students for careers as pharmacy technicians in hospital, retail, mail-order pharmacies and other pharmacy related industries. Students receive classroom, laboratory and practical experience covering all aspects of the profession. Included within the laboratory portions of the program is a 63-hour content-specific block of instruction dealing with the preparation of sterile intravenous products. This content-specific block, and documented experiential site sterile compounding training hours, may then be used in satisfying the New Mexico statute 61-11-11.1 training requirements for pharmacy technicians who compound sterile preparations. The Pharmacy Technician Program is accredited by ASHP/ACPE (the American Society of Health-System Pharmacists/ the Accreditation Council for Pharmacy Education).

New Mexico Board of Pharmacy Registration requirements: • 18 years old before enrolling in PT1590 Clinical Practicum • Valid Social

Security Number (SSN) for registration as a Pharmacy Technician For additional information on New Mexico Board of Pharmacy requirements for Pharmacy Technicians, please click on the following link: <http://164.64.110.239/nmac/parts/title16/16.019.0022.htm>

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math 2 Proficiency
- Reading & Writing Proficiency 2 **or** ENG 1101 (Recommended)
- CHEM 1410 **and** CHEM 1492

## Required Sequence of Courses

### Term 1

- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- PT 1003 - Pharmacy Calculations **3 credit hour(s)**
- PT 1010 - Introduction to Pharmacy Technology **3 credit hour(s)**
- PT 1015 - Pharmacy Technician Anatomy and Physiology **3 credit hour(s)**
- PT 1092 - Pharmacy Technician Lab I **2 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
**or**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
**or**
- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**  
**or**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
  
- PT 1510 - Advanced Pharmacy Technology **3 credit hour(s)**
- PT 1515 - Pharmacology for Pharmacy Technicians **3 credit hour(s)**
- PT 1590 - Pharmacy Technician Practicum **5 credit hour(s)**
- PT 1592 - Pharmacy Technician Lab II **2 credit hour(s)**

## Certificate of Completion in Pharmacy Technician 31 credit hours

## Physical Therapist Assistant

### Physical Therapist Assistant, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

Physical Therapist Assistant (PTA) is a six-term program during which the student will attain the knowledge, skills and professional behaviors necessary for employment as a Physical Therapist Assistant. Physical therapist assistants work as part of a team to provide physical therapy services under the direction and supervision of a licensed physical therapist. PTAs help people of all ages who have medical problems or other health-related conditions that limit their ability to move and perform functional activities in their daily lives.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- Math Proficiency 2

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- BIO 1310 - Human Anatomy and Physiology for Non-Majors **3 credit hour(s)**  
**and**
- BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory **1 credit hour(s)**  
**or**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**  
**and**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**  
**and**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**  
**and**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- BPCS 1092 - Basic Patient Care Skills **1 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
- PTA 1010 - The Profession of Physical Therapy **1 credit hour(s)**
- PTA 1020 - Pre-PTA Anatomy Fundamentals **3 credit hour(s)**

### Term 3 - Coordinated Entry

- PTA 1110 - Orientation to Physical Therapist Assistant **3 credit hour(s)**
- PTA 1120 - Clinical Kinesiology **3 credit hour(s)**
- PTA 1130 - PTA Pathophysiology **3 credit hour(s)**
- PTA 1140 - PTA Procedures I **4 credit hour(s)**

### Term 4

- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- PTA 1520 - Therapeutic Exercise **3 credit hour(s)**
- PTA 1530 - Orthopedics for PTA **3 credit hour(s)**
- PTA 1540 - Clinical Neurology and Management **4 credit hour(s)**
- PTA 1550 - Physical Agents **4 credit hour(s)**

### Term 5

- PTA 2010 - PTA Procedures II **3 credit hour(s)**
- PTA 2090 - Clinical Practicum I **4 credit hour(s)**

### Term 6



- PTA 2210 - Professional Issues **1 credit hour(s)**
- PTA 2290 - Clinical Practicum II **6 credit hour(s)**
- PTA 2390 - Clinical Practicum III **5 credit hour(s)**

## Associate of Applied Science in Physical Therapist Assistant 71-76 credit hours

# Physics

## Physics, Associate of Science

### School of Math, Science & Engineering (MSE)

Students majoring in Physics examine the properties of matter and energy and the relationships between them. Interested students can learn about career opportunities and pathways in Physics and related fields from the American Institute of Physics.

This program is designed to meet the requirements for an Associate of Science in Physics from CNM and prepare a student to obtain a Bachelor of Science in Physics at the University of New Mexico. The AS in Physics will also satisfy many of the requirements for a Bachelor of Science degree in Astronomy at UNM. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students interested in transfer to UNM should consult the UNM Physics and Astronomy Department. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. College catalogs are generally available online. Students should also consult a faculty advisor and/or an Academic Coach with CNM Connect Services.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- (MATH 1410 and MATH 1415) or MATH 1530
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
- PHYS 1792 - Calculus-Based Physics I Laboratory **1 credit hour(s)**

### Term 2

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- MATH 1715 - Calculus II **4 credit hour(s)**
- PHYS 1810 - Calculus-Based Physics II **4 credit hour(s)**
- PHYS 1892 - Calculus-Based Physics II Laboratory **1 credit hour(s)**

### Term 3

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**

- MATH 2710 - Calculus III **4 credit hour(s)**
- PHYS 2710 - Calculus-Based Physics III **4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 4

- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- CSCI 1151 - Introduction to Programming for Non-Majors of Computer Science **4 credit hour(s)**  
or
- CSCI 1152 - Introduction to Programming for Computer Science Majors **4 credit hour(s)**  
or
- CSCI 1153 - Programming in Matlab **4 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hours**

## Associate of Science in Physics 65 credit hours

This information is meant to serve as a general guide for students intending to major in Physics. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four-year transfer school to confirm specific admission and degree requirements.

# Plumbing and Gas Fitting

## Plumbing and Gas Fitting, Associate of Applied Science

### School of Applied Technologies (AT)

The Plumbing Certificate and Associate Degree programs provide students with opportunities to develop marketable skills in areas of installation, repair and maintenance of common plumbing systems. Mathematical computations; interpretation of code, manufacturer's requirements, descriptions of technological advancements, public health and general public safety responsibilities are emphasized. Core principles and concepts of plumbing systems are cornerstones for each course. Classroom theory leads to team and individual hands-on projects, which are recorded, completed and evaluated. Plumbing safety, blueprint reading, gas fittings, pipe layout, drain waste and vent piping systems are subjects covered during the first term. Backflow prevention, commercial plumbing, building maintenance and repair, hydronics and plumbing systems and plumbing code applications are subjects concentrated on during the second term. Completion of the Plumbing certificate and Associate Degree programs provides students with the education and experience for a New Mexico Journeyman's license.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**
- PLMB 1105 - Plumbing and Safety Fundamentals **3 credit hour(s)**
- PLMB 1110 - Blueprint Reading **2 credit hour(s)**
- PLMB 1115 - Introduction to Gas Fitting and Pipe Laying **2 credit hour(s)**
- PLMB 1120 - Drain Waste and Vent I **2 credit hour(s)**
- PLMB 1130 - Water Piping Systems **2 credit hour(s)**

- PLMB 1305 - Trades Math **2 credit hour(s)**

## Term 2

- ENG 1101 - College Writing **3 credit hour(s)**
- PLMB 1125 - Drain Waste and Vent II **2 credit hour(s)**
- PLMB 1215 - Plumbing Theory and Repair **2 credit hour(s)**
- PLMB 1220 - Plumbing Code Applications **3 credit hour(s)**
- PLMB 1225 - Building Maintenance and Repair **2 credit hour(s)**
- PLMB 1235 - Gas Code Applications **3 credit hour(s)**

## Term 3

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- PLMB 1205 - Backflow Prevention **2 credit hour(s)**
- PLMB 1210 - Commercial Plumbing **2 credit hour(s)**
- PLMB 1230 - Hydronics and Plumbing Systems **2 credit hour(s)**
- PLMB 1320 - Solar Thermal Systems **3 credit hour(s)**
- PLMB 1330 - Energy and Water Conservation Systems **3 credit hour(s)**

## Term 4

- HVAC 1105 - Refrigerant Fundamentals **4 credit hour(s)**
- HVAC 1110 - Basic Electricity **3 credit hour(s)**
- HVAC 1120 - Motors & Controls **3 credit hour(s)**
- HVAC 1235 - Air Conditioning and Controls **3 credit hour(s)**
- HVAC 1245 - Heating and Heating Control Systems **3 credit hour(s)**

## Term 5

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**  
or
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- WELD 1062 - Welding Fundamentals **3 credit hour(s)**

## Associate of Applied Science in Plumbing & Gas Fitting 72-73 credit hours

### Plumbing and Gas Fitting, Certificate of Completion

#### School of Applied Technologies (AT)

The Plumbing Certificate and Associate Degree programs provide students with opportunities to develop marketable skills in areas of installation, repair and maintenance of common plumbing systems. Mathematical computations; interpretation of code, manufacturer's requirements, descriptions of technological advancements, public health and general public safety responsibilities are emphasized. Core principles and concepts of plumbing systems are cornerstones for each course. Classroom theory leads to team and individual hands-on projects, which are recorded, completed and evaluated. Plumbing safety, blueprint reading, gas fittings, pipe layout, drain waste and vent piping systems are subjects covered during the first term. Backflow prevention, commercial plumbing, building maintenance and repair, hydronics and plumbing systems and plumbing code applications are subjects concentrated on during the second term. Completion of the Plumbing certificate and Associate Degree programs provides students with the education and experience for a New Mexico Journeyman's license.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- PLMB 1105 - Plumbing and Safety Fundamentals **3 credit hour(s)**
- PLMB 1110 - Blueprint Reading **2 credit hour(s)**
- PLMB 1115 - Introduction to Gas Fitting and Pipe Laying **2 credit hour(s)**
- PLMB 1120 - Drain Waste and Vent I **2 credit hour(s)**
- PLMB 1130 - Water Piping Systems **2 credit hour(s)**
- PLMB 1305 - Trades Math **2 credit hour(s)**
- OSH 2006 - Occupational Safety for Construction I **1 credit hour(s)**

### Term 2

- PLMB 1125 - Drain Waste and Vent II **2 credit hour(s)**
- PLMB 1215 - Plumbing Theory and Repair **2 credit hour(s)**
- PLMB 1220 - Plumbing Code Applications **3 credit hour(s)**
- PLMB 1225 - Building Maintenance and Repair **2 credit hour(s)**
- PLMB 1235 - Gas Code Applications **3 credit hour(s)**

### Term 3

- PLMB 1205 - Backflow Prevention **2 credit hour(s)**
- PLMB 1210 - Commercial Plumbing **2 credit hour(s)**
- PLMB 1230 - Hydronics and Plumbing Systems **2 credit hour(s)**
- PLMB 1320 - Solar Thermal Systems **3 credit hour(s)**
- PLMB 1330 - Energy and Water Conservation Systems **3 credit hour(s)**

## Certificate of Completion in Plumbing **38 credit hours**

## Political Science

### Political Science, Associate of Arts

#### School of Communication, Humanities & Social Sciences (CHSS)

Political science is a social science discipline that deals with the theory and practice of politics and the description and analysis of political systems and political behavior. Fields of political science include political theory, civics and comparative politics, national political systems, cross-national political analysis, political development, international relations, foreign policy analysis, public administration, and public policy.

This program is designed to meet the requirements for an Associate of Arts in Political Science from CNM and prepare a student to obtain a Bachelor of Arts in Political Science from a 4-year college or university.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

## Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- Program Approved Elective **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**

## Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- Program Approved Elective **6 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

## Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Elective 3 credit hours(s)**

## Term 4

- **Elective 6 credit hour(s)**
- Program Approved Elective **6 credit hour(s)**

## Associate of Arts in Political Science 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Political Science. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four-year transfer school to confirm specific admission and degree requirements.

### Program Approved Electives

For students intending to transfer to the University of New Mexico's Political Science program, please refer to the UNM Political Science Major and Minor Requirements as you select which courses to take at CNM. PSCI 1110 must be taken before other PSCI course work in order for this course to transfer.

#### Choose from the following list of CNM courses:

- PSCI 1110 - The Political World **3 credit hour(s)**
- PSCI 2200 - U.S. Politics **3 credit hour(s)**
- PSCI 2220 - Comparative Government and Politics **3 credit hour(s)**
- PSCI 2240 - International Politics **3 credit hour(s)**
- PSCI 2260 - Political Ideas **3 credit hour(s)**
- PSCI 2270 - Introduction to Public Policy **3 credit hour(s)**
- PSCI 2280 - Introduction to Political Analysis **3 credit hour(s)**
- PSCI 2298 - Internship in Politics **1-3 credit hour(s)**

## Polysomnography

# Polysomnographic Technology, Associate of Applied Science

## School of Health, Wellness & Public Safety (HWPS)

Polysomnography has emerged as a unique profession for performing the technical evaluation of a broad range of sleep disorders. The field of polysomnography (PSG) involves the evaluation of many physiological parameters during sleep to produce a quantitative "sleep study." PSG evaluations are necessary to document sleep disorders and to assist physicians in identifying sleep issues and the appropriate treatment. The disruption of proper sleep can complicate or cause many chronic disorders and conditions. There is a critical need for well-trained healthcare professionals in the area of polysomnography. The field of sleep studies, or polysomnography, is a rapidly growing area of health professions. Estimates reflect over 20,000 sleep labs and sleep centers are currently performing sleep diagnostics and the needs continue to grow for credentialed individuals interested in the field of sleep medicine. The program is applying for accreditation through the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

This program offers an accelerated option for currently licensed respiratory care practitioners who are interested in a career in sleep medicine. Certified Respiratory Therapists (CRT) and Registered Respiratory Therapists (RRT) may enter the program in Term 3. They may be awarded Credit for Prior Learning (CPL) for RT, BPCS, HLTH, and HIT coursework included in the Polysomnographic Technology course of study.

This program's second term courses are typically offered in the fall term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- BIO 1410 + BIO 1492
- CHEM 1410 or CHEM 1710
- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- **AAS Mathematics Requirement 3-4 credit hours**
- **AAS Written Communication Requirement 3 credit hours**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2 (PSG and RT Courses Typically Offered Fall Only)

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- PSG 1010 - Introduction to EEG **3 credit hour(s)**
- RT 1020 - Physics of Respiratory Therapy **3 credit hour(s)**
- RT 1060 - Respiratory Therapy I **3 credit hour(s)**
- RT 1080 - Cardiopulmonary Pathophysiology I **1 credit hour(s)**

### Term 3 (PSG Courses Typically Offered Spring Only)

- BPCS 1092 - Basic Patient Care Skills **1 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- PSG 1020 - Applied Neurologic Anatomy and Physiology **2 credit hour(s)**
- PSG 1035 - Biomedical Electronics **3 credit hour(s)**
- PSG 1040 - Introduction to Sleep Disorder Medicine **3 credit hour(s)**

### Term 4 (PSG Courses Typically Offered Summer Only)

- **Program Approved Communication Elective 3 credit hour(s)**
- HLTH 1010 - Medical Ethics and Law **1 credit hour(s)**

- PSG 1535 - Sleep Disorders Principles and Practices **4 credit hour(s)**
- PSG 1590 - Polysomnography Clinical Experience I **3 credit hour(s)**

### Term 5 (PSG Courses Typically Offered Fall Only)

- **Human Relations Requirement 3 credit hours**
- PSG 2035 - Sleep Therapeutics **3 credit hour(s)**
- PSG 2045 - Record Scoring **3 credit hour(s)**
- PSG 2090 - Polysomnography Clinical Experience II **3 credit hour(s)**

## Associate of Applied Science in Polysomnographic Technology 61-62 credit hours

### Program Approved Communication Electives

- COMM 1130 - Public Speaking **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**
- COMM 2280 - Gender Communication Studies **3 credit hour(s)**

## Pre-Health Sciences

### Pre-Health Science (AA), General Health Sciences Concentration

#### School of Math, Science & Engineering (MSE)

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to the University of New Mexico (UNM) or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the UNM core curriculum.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
  
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
**and**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**  
**or**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**  
**and**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

## Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Program Approved Elective 3-4 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

## Term 3

- **Elective 6-8 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Program Approved Elective 5-6 credit hour(s)** (lectures or lecture with lab)
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Elective 9 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**

## **Associate of Arts in Pre-Health Sciences, General Health Sciences Concentration 61-66 credit hours**

### Program Approved Electives

Students must successfully complete 8-10 credit hour(s) from the following

- BIO 1310 - Human Anatomy and Physiology for Non-Majors **3 credit hour(s)**
- BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory **1 credit hour(s)**
- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- BIO 2710 - Pathophysiology I **3 credit hour(s)**
- CHEM 2210 - Organic Chemistry and Biochemistry **4 credit hour(s)**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**

## **Pre-Health Science (AA), Pre-Dental Hygiene Concentration**

### **School of Math, Science & Engineering (MSE)**

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students for transfer to the University Of New Mexico (UNM) or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the UNM core curriculum.

This program is designed to prepare students to transfer to a 4-year degree program in Dental Hygiene.



## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3 or MATH 1210
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
  
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
  
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
**and**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
  
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**  
**and**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Elective 3-4 credit hour(s)**

### Term 3

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**  
**and**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
  
- CHEM 2210 - Organic Chemistry and Biochemistry **4 credit hour(s)**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

### Term 4

- BIO 2110 - Microbiology **3 credit hour(s)**  
**and**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**

- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Elective 3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**

## **Associate of Arts in Pre-Health Sciences, Pre-Dental Hygiene Concentration 63-64 credit hours**

### **Pre-Health Science (AA), Pre-Emergency Medical Services Concentration**

#### **School of Math, Science & Engineering (MSE)**

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

This program is designed to prepare students to transfer to a 4-year degree program in Emergency Medical Services.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

#### **Recommended Sequence of Courses**

##### **Term 1**

- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
  
- CHEM 1710 - General Chemistry I **3 credit hour(s)**  
**and**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

##### **Term 2**

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**  
**and**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)\***
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

##### **Term 3**

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**

and

- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
  
- EMS 1053 - EMT Basic Theory **6 credit hour(s)**
- and
- EMS 1093 - EMT Basic Lab **2 credit hour(s)\* \***
- and
- EMS 1190 - EMT Basic Clinical **1 credit hour(s)**
  
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**

#### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Elective 3-4 credit hour(s)\* \*\***
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## **Associate of Arts in Pre-Health Sciences, Pre-Emergency Medical Services Concentration 62-64 credit hours**

### Notes

This information is meant to serve as a general guide for students intending to major in Emergency Medical Services at UNM.\*\*\*\* Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\* MATH 1315 - College Algebra is required for students to apply for the EMS Academy at UNM.

\*\* Students must be certified in EMT-Basic or EMT-Intermediate prior to applying for the UNM program. Students are strongly recommended to meet with a UNM advisor to discuss their transfer plans.

\*\*\* Modern Language recommended

\*\*\*\* Students are strongly recommended to meet with the UNM Emergency Medical Services advisor to discuss their transfer plans. Contact information is available on the UNM Emergency Medical Services Academy website.

## **Pre-Health Science (AA), Pre-Exercise Science Concentration**

### **School of Math, Science & Engineering (MSE)**

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### Term 1

- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**

- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**

## Term 2

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

## Term 3

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)\***

## Term 4

- CHEM 2210 - Organic Chemistry and Biochemistry **4 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- PHYS 1010 - Introduction to Physics **3 credit hour(s)**  
or
- PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**

## Associate of Arts in Pre-Health Sciences, Pre-Exercise Science Concentration 63 - 64 credit hours

### Notes

This information is meant to serve as a general guide for students intending to major in Exercise Science at UNM.\*\* Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\* This Social/Behavioral Science requirement cannot be a Psychology (PSY) course.

\*\* Students are strongly advised to meet with the UNM Exercise Science advisor to discuss their transfer plans. Contact information is available on the UNM Exercise Science website.

## Pre-Health Science (AA), Pre-Health Education: Community Health Concentration

### School of Math, Science & Engineering (MSE)

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general

education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum. This concentration helps prepare individuals for careers in public health education with the aim of addressing health problems and health promotion.

This program is designed to prepare students to transfer to a 4-year degree program in Health Education - Community Health. Community Health education aims at combining biological, medical, physical, environmental, and psychological studies to educate, enhance, and prevent disabilities and diseases. It also encourages the community to work towards improved health standards.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3 or MATH 1210
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
**and**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hours**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

### Term 2

- ANTH 1130 - Cultures of the World **3 credit hour(s)**
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**

### Term 3

- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**
- ENG 2219 - Technical Writing **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

**Associate of Arts in Pre-Health Sciences, Pre-Health Education: Community Health Concentration 61 - 62 credit hours**

## Note

This information is meant to serve as a general guide for students intending to major in Health Education at UNM.\* Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

\* Students are strongly advised to meet with a UNM Health Education advisor to discuss their transfer plans. Contact information is available on the Health Education website.

## Program Approved Electives

- EDUC 2204 - Child Development **3 credit hour(s)**
- PSCI 2270 - Introduction to Public Policy **3 credit hour(s)**
- PSCI 2280 - Introduction to Political Analysis **3 credit hour(s)**
- PSY 2200 - Statistical Principles **3 credit hour(s)**
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**
- SOC 2235 - Sociology of Gender **3 credit hour(s)**

## Pre-Health Science (AA), Pre-Medical Laboratory Sciences Concentration

### School of Math, Science & Engineering (MSE)

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students for transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

This program is designed to prepare students to transfer to a 4-year degree program in Medical Laboratory Sciences.

Students should also consult an Academic Coach in planning their academic progress.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
  
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**
  
- CHEM 1710 - General Chemistry I **3 credit hour(s)**  
**and**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**

### Term 2

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**

### Term 3

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
  
- CHEM 1810 - General Chemistry II **3 credit hour(s)**  
**and**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
  
- **Humanities Requirement 3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- BIO 2110 - Microbiology **3 credit hour(s)**  
**and**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
  
- CHEM 2210 - Organic Chemistry and Biochemistry **4 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**

## **Associate of Arts in Pre-Health Sciences, Pre-Medical Laboratory Sciences Concentration 63-64 credit hours**

### **Pre-Health Science (AA), Pre-Nursing Concentration**

#### **School of Math, Science & Engineering (MSE)**

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

This program is designed to prepare students to transfer to a 4-year degree program in Nursing.

#### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 3 **or** MATH 1210
- Reading & Writing Proficiency 2

#### **Recommended Sequence of Courses**

##### Term 1

- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**

- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
**and**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

## Term 2

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)\***
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- PSY 2220 - Developmental Psychology **3 credit hour(s)**

## Term 3

- BIO 2110 - Microbiology **3 credit hour(s)**  
**and**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)\* \***
- **Humanities Requirement 3 credit hour(s)**
- NUTR 2110 - Human Nutrition **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 4

- BIO 2710 - Pathophysiology I **3 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Elective 3-4 credit hour(s)\* \* \***
- **Fine Arts Requirement 3 credit hour(s)**

## Associate of Arts in Pre-Health Sciences, Pre-Nursing Concentration 60-61 credit hours

### Notes

\*The Anatomy and Physiology I Lab course, BIO 2292, is recommended but not required.

\*\*The Anatomy and Physiology II Lab course, BIO 2392, is recommended but not required.

\*\*\* Students are recommended to take either a Modern Language or Pathophysiology II, BIO 2711.

## Pre-Health Science (AA), Pre-Pharmacy Concentration

### School of Math, Science & Engineering (MSE)

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

This information is meant to serve as a general guide for students intending to pursue a pre-pharmacy curriculum.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.



- MATH 1315
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1330 - Introduction to Probability and Statistics **3 credit hour(s)**
- **Program Approved Humanities Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s) (PSY 1105 recommended) \***

### Term 2

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**
- **Program Approved Communications Elective 3 credit hour(s)**

### Term 3

- BIO 1610 - Genetics **3 credit hour(s)**
- BIO 1692 - Genetics Laboratory **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- **Program Approved Elective 3 - 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s) (ECON 2201 recommended) \*\***

### Term 4

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- CHEM 2710 - Organic Chemistry I **3 credit hour(s)**
- CHEM 2792 - Organic Chemistry I Laboratory **1 credit hour(s)**
- Program Approved Elective **3-4 credit hour(s)**
- Program Approved Humanities Elective **3 credit hour(s)**
- Social/Behavioral Science or Humanities or Fine Arts Requirement **3 credit hour(s)**

## Associate of Arts in Pre-Health Sciences, Pre-Pharmacy Concentration 62 - 64 credit hours

\* PSY 1105 recommended. This course is recommended to satisfy part of the Non-Professional Electives required as Prerequisite Coursework for the PharmD program at UNM.

\*\* ECON 2201 recommended. This course is included in the list of Prerequisite Coursework for the PharmD program at UNM.

### Program Approved Communications Elective - 3 credit hours

Only 3 credit hours are required for the AA degree. However, 6 credit hours must be completed for admission to UNM's College of Pharmacy.

- COMM 1130 - Public Speaking **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**

- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**

## Program Approved Humanities Elective - 6 credit hours

These courses were selected because they satisfy the requirements of both CNM's Humanities requirement as well as the Critical Thinking Selective requirement for UNM's College of Pharmacy. Students who have met both of these requirements with other courses should see the School of Math, Science and Engineering to discuss options

- PHIL 1102 - Ethics in Society **3 credit hour(s)**
- PHIL 1110 - Introduction to Philosophical Thought **3 credit hour(s)**
- PHIL 1156 - Logic and Critical Thinking **3 credit hour(s)**
- PHIL 2247 - Biomedical Ethics **3 credit hour(s)**

## Program Approved Electives - 6 - 8 credit hours

Only 6 credit hours from this list are required for the AA degree. However, BIO 2110, BIO 2192, BIO 2310, CHEM 2810, CHEM 2892, PHYS 1510, PHYS 1610 and a second Communications class are all required for admission into UNM's College of Pharmacy.

- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- CHEM 2810 - Organic Chemistry II **3 credit hour(s)**
- CHEM 2892 - Organic Chemistry II Laboratory **1 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- COMM 2225 - Small-Group Communication Studies **3 credit hour(s)**
- COMM 2232 - Business and Professional Communication Studies **3 credit hour(s)**

## Note

This information is meant to serve as a general guide for students intending to pursue a pre-pharmacy curriculum at UNM. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the transfer school to confirm specific admission and degree requirements.

**Pre-Pharmacy is NOT a major at UNM.** Students complete pre-pharmacy coursework and then apply to directly enter the School of Pharmacy. Students with a GPA higher than 3.0 will be most competitive in the admissions process, and there are additional admission criteria, including the PCAT exam, letters of reference, and required experience. Students are strongly encouraged to meet with a UNM College of Pharmacy advisor to confirm course equivalencies and learn more about admission procedures. Contact information is available on the College of Pharmacy website. In addition, students are encouraged to meet with a UNM Arts and Sciences Advisor to discuss major options while they wait to enter the School of Pharmacy. Visit the Arts and Sciences Advisement website.

## Additional Notes

Additional courses beyond the AA Degree will be required before applying to a Doctor of Pharmacy program. The College of Pharmacy at UNM requires:

Completion of all the Program Approved Electives listed above (beyond the 6 credit hours required for the AA degree).

An additional 18 credit hours selected from the following list:

Highly recommended by UNM: Upper division Biology and Biochemistry courses (CHEM 2210 is not acceptable.). These are not offered at CNM.

Communication: English Writing, Speech Communications, Linguistics or Journalism

Humanities: Literature (including American English, foreign and comparative literature), History, Religion or Philosophy.

Social/Behavioral Sciences: Anthropology, Psychology, Economics, Human Geography, Political Science or Sociology.

Foreign Languages

Fine Arts: Selected courses in the history, appreciation and criticism of art, music, theatre and dance.

Health Promotion: First Aid, Nutrition, Health and Physical Education (no nonprofessional Physical Education courses).

# Pre-Health Science (AS), Pre-Medical Concentration

## School of Math, Science & Engineering (MSE)

The Pre-Health Sciences major is a program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

This program is designed to prepare students for medical school. The courses included in the program are those required as prerequisites for the UNM School of Medicine (SOM) and most schools of medicine nationwide.

The proposed term-by-term list only includes CNM's General Education requirements and the minimum science and math prerequisites for the UNM SOM while also including their list of Strongly Recommended and Recommended courses that are also offered at CNM.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

### Term 2

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hours**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**

### Term 3

- BIO 1610 - Genetics **3 credit hour(s)**
- BIO 1692 - Genetics Laboratory **1 credit hour(s)**
- CHEM 2710 - Organic Chemistry I **3 credit hour(s)**
- CHEM 2792 - Organic Chemistry I Laboratory **1 credit hour(s)**
- PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hours**

### Term 4

- CHEM 2810 - Organic Chemistry II **3 credit hour(s)**
- CHEM 2892 - Organic Chemistry II Laboratory **1 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**
- PHYS 1610 - Algebra-Based Physics II **4 credit hour(s)**
- **Humanities Requirement 3 credit hours**

## **Associate in Science, Pre-Health Science, Pre-Medical Concentration 62 credit hours**

Courses not required by CNM or the UNM School of Medicine but Strongly Recommended by the UNM School of Medicine

- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- BIO 2410 - Ecology & Evolution **3 credit hour(s)**
- BIO 2492 - Ecology & Evolution Laboratory **1 credit hour(s)**
- BIO 2510 - Plant & Animal Form and Function **3 credit hour(s)**
- BIO 2592 - Plant & Animal Form and Function Laboratory **1 credit hour(s)**

## **Pre-Health Science, Pre-Medical Certificate of Completion**

### **School of Math, Science & Engineering (MSE)**

The Pre-Health Sciences major is an Associate of Arts Degree program that prepares students to apply for health-related programs at CNM, as well as to transfer to UNM or other four-year degree programs in numerous health-related fields. It fulfills the general education core courses for 4-year degrees required by the state of New Mexico and the University of New Mexico core curriculum.

This certificate of completion is specifically designed to meet the needs of students who already possess a Bachelor's degree (or are near completion), have decided to apply to medical schools, and need to complete the science and math prerequisite courses.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1315
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
- MATH 1460 - Elements of Calculus I **3 credit hour(s)**

#### **Term 2**

- BIO 1610 - Genetics **3 credit hour(s)**
- BIO 1692 - Genetics Laboratory **1 credit hour(s)**
- CHEM 1810 - General Chemistry II **3 credit hour(s)**
- CHEM 1892 - General Chemistry II Lab **1 credit hour(s)**
- PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**

#### **Term 3**

- CHEM 2710 - Organic Chemistry I **3 credit hour(s)**
- CHEM 2792 - Organic Chemistry I Laboratory **1 credit hour(s)**
- PHYS 1610 - Algebra-Based Physics II **4 credit hour(s)**

## Term 4

- CHEM 2810 - Organic Chemistry II **3 credit hour(s)**
- CHEM 2892 - Organic Chemistry II Laboratory **1 credit hour(s)**

## Certificate of Completion in Pre-Health Science, Pre-Medical Concentration **35 credit hours**

### Courses not required by CNM or the UNM School of Medicine but strongly recommended by the UNM School of Medicine

- BIO 2110 - Microbiology **3 credit hour(s)**
- BIO 2192 - Microbiology Laboratory **1 credit hour(s)**
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- BIO 2410 - Ecology & Evolution **3 credit hour(s)**
- BIO 2492 - Ecology & Evolution Laboratory **1 credit hour(s)**
- BIO 2510 - Plant & Animal Form and Function **3 credit hour(s)**
- BIO 2592 - Plant & Animal Form and Function Laboratory **1 credit hour(s)**

## Pre-Law

### Pre-Law, Associate of Arts

#### School of Communication, Humanities & Social Sciences (CHSS)

The purpose of the program is to prepare students interested in pursuing law to transfer into a pre-law concentration degree program at a four-year university. Students may transfer directly into sociology, philosophy, or political science programs on their path to the law degree.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)\***
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)\* \***
- **Social/Behavioral Science Requirement 3 credit hour(s)\* \* \***

#### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- PHIL 1156 - Logic and Critical Thinking **3 credit hour(s)**

- **Social/Behavioral Requirement 3 credit hour(s)\* \* \* \***

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**

### Term 4

- **Elective 3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**

## Associate of Arts in Pre-Law 60-61 credit hours

\* HIST 1162 recommended for students intending to transfer to the UNM.\* \* MATH 1330 recommended for students intending to transfer to the UNM.\* \* \* SOC 1101 recommended for students intending to transfer to the UNM.\* \* \* \* PSCI 2200 recommended for students intending to transfer to the UNM.

### Program Approved Electives

- ENG 2220 - Expository Writing **3 credit hour(s)**
- PHIL 2201 - Greek Philosophy **3 credit hour(s)**
- PHIL 2202 - Modern Philosophy **3 credit hour(s)**
- PSCI 2240 - International Politics **3 credit hour(s)**
- PSCI 2270 - Introduction to Public Policy **3 credit hour(s)**
- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**  
or
- SOC 2215 - Criminology **3 credit hour(s)**
- SOC 2211 - Social Problems **3 credit hour(s)**
- SOC 2213 - Deviant Behavior **3 credit hour(s)**

## Psychology

### Psychology, Associate of Arts

#### School of Communication, Humanities & Social Sciences (CHSS)

Psychology is the science of behavior and mental processes. Students of psychology learn about a variety of topics including nervous system function, human development, learning, memory, the role of the mind in physical health, and individual behavior in social contexts.

This program is designed to meet the requirements for an Associate of Arts in Psychology from CNM and prepare a student to obtain a Bachelor of Arts in Psychology from a 4-year college or university.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3

- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

### Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- **Elective 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 4

- **Elective 3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- PSY 2200 - Statistical Principles **3 credit hour(s)**

## Associate of Arts in Psychology 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Psychology. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four-year transfer school to confirm specific admission and degree requirements.

### Program Approved Electives

Choose from the following list of courses:

- PSY 2220 - Developmental Psychology **3 credit hour(s)**
- PSY 2240 - Brain and Behavior **3 credit hour(s)**
- PSY 2260 - Psychology of Learning and Memory **3 credit hour(s)**
- PSY 2265 - Cognitive Psychology **3 credit hour(s)**
- PSY 2271 - Social Psychology **3 credit hour(s)**
- PSY 2280 - Health Psychology **3 credit hour(s)**

# Radiologic Technology

## Radiologic Technology, Associate of Applied Science

### School of Health, Wellness & Public Safety (HWPS)

Radiologic technology is a healthcare profession for practitioners who work in hospitals, clinics and free-standing imaging centers. The radiographer is a member of the healthcare team who works directly with the patient and the physician in performing a wide variety of diagnostic and interventional therapy procedures. The rapid expansion of medical diagnostic imaging has greatly increased the diversity and utility of medical diagnosis. The radiographer must be proficient in the knowledge of radiographic exposure, anatomy, patient positioning, the operation of specialized equipment and the care and management of the patient. Upon completion of the program, students will be eligible to take the certification examination administered by the American Registry of Radiologic Technologists (ARRT). The program meets the ARRT (American Registration of Radiologic Technologist) accreditation requirements through the NCACS-HLC institutional accreditation of Central New Mexico Community College.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- BIO 1410 + BIO 1492
- CHEM 1410 or CHEM 1710
- MATH 1310
- Reading & Writing Proficiency 2

### Required Sequence of Courses

#### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s) \*\***
- BPCS 1092 - Basic Patient Care Skills **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
- HLTH 1040 - Introduction to Medical Imaging **3 credit hour(s)**

#### Term 2 (Coordinated Entry - Typically Offered Fall Only)

- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s) \* \***
- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- RADT 1070 - Radiographic Positioning I **4 credit hour(s)**
- RADT 1092 - Patient Care for Radiography **1 credit hour(s)**
- RADT 2410 - Radiographic Physics and Instrumentation **3 credit hour(s)**

#### Term 3 (Typically Offered Spring Only)

- RADT 1570 - Radiographic Positioning II **4 credit hour(s)**
- RADT 1690 - Clinical Experience I **5 credit hour(s)**
- RADT 2010 - Radiographic Imaging I **3 credit hour(s)**

#### Term 4 (Typically Offered Summer Only)

- **Human Relations Requirement 3 credit hour(s)\* \* \***
- RADT 2090 - Clinical Experience II **5 credit hour(s)**
- RADT 2404 - Radiographic Imaging II **3 credit hour(s)**

#### Term 5 (Typically Offered Fall Only)



- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- RADT 1520 - Radiation Biology and Protection **2 credit hour(s)**
- RADT 2408 - Radiographic Pathology and Cross-sectional Anatomy **3 credit hour(s)**
- RADT 2490 - Clinical Experience III **5 credit hour(s)**

### Term 6 (Typically Offered Spring Only)

- RADT 2890 - Clinical Experience IV **6 credit hour(s)**
- RADT 2999 - Radiologic Technology Capstone **2 credit hour(s)**

## Associate of Applied Science in Radiologic Technology 72-73 credit hours

\* MATH 1315 or MATH 1330 recommended for transfer into the UNM Bachelor of Science in Radiologic Science degree.

\*\* It is strongly recommended that students take the Anatomy & Physiology lab courses concurrently with the lectures. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

\*\*\* COMM 2221 recommended.

## Rapid Prototyping and Innovative Design

### Rapid Prototyping and Innovative Design, Certificate of Achievement

#### School of Applied Technologies (AT)

Certificate of Achievement covering the foundational skills in producing prototypes for evaluation and low volume manufacturing.

#### Term 1

- RPID 1005 - 3 Dimensional CAD **3 credit hour(s)**
- RPID 1010 - Design and Simulation **3 credit hour(s)**
- RPID 1015 - Prototype Fabrication I **3 credit hour(s)**
- RPID 1020 - Prototype Fabrication II **3 credit hour(s)**

### Certificate of Achievement in Rapid Prototyping and Innovative Design 12 credit hours

## Respiratory Care

### Respiratory Therapy, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

Respiratory care is an allied health profession specializing in diagnostic testing, therapeutic treatment and critical care support for patients suffering from life-threatening or chronic cardiopulmonary diseases. Under medical direction, Respiratory Therapists assess and treat patients, monitor and evaluate cardiopulmonary function, perform diagnostic testing and maintain life-support systems for patients in critical care settings. The curriculum includes classroom, laboratory and supervised clinical instruction covering cardiopulmonary anatomy, physiology and pathophysiology, therapeutic treatments, cardiopulmonary diagnostic technology, critical care and life-support technology for adults, children and infants, respiratory home care and pulmonary rehabilitation.

The CNM Respiratory Therapy Program is accredited by the Committee on Accreditation for Respiratory Care (CoARC) and prepares graduates for the Certification (CRT) and Registry (RRT) credentials by the National Board for Respiratory Care (NBRC) and for Licensure (RCP) by the State of New Mexico Respiratory Care Board. The CNM Respiratory Therapy Program is accredited by the Commission on Accreditation for Respiratory Care.

This program's first term courses are typically offered in the spring term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

Recommended Sequence of Courses

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course

work.

- **High School Diploma or Equivalent**
- **Coordinated Entry Program**
- **Math Proficiency 2**
- **Reading & Writing Proficiency 2**
- **Biology Proficiency**

### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)\***
- **BIO 2210 - Human Anatomy and Physiology I 3 credit hour(s)**
- **ENG 1101 - College Writing 3 credit hour(s)**
- **HLTH 1001 - Clinical Preparation 1 credit hour(s)**
- **IT 1010 - Computer Concepts and Software Applications 3 credit hour(s)**

### Term 2 (Coordinated Entry - (Typically Offered in Spring Only))

This program's first term courses are offered in the spring term only. This may delay a student's program start date. Please check with an Academic Coach for more information.

- **BIO 2310 - Human Anatomy and Physiology II 3 credit hour(s)**
- **RT 1020 - Physics of Respiratory Therapy 3 credit hour(s)**
- **RT 1060 - Respiratory Therapy I 3 credit hour(s)**
- **RT 1080 - Cardiopulmonary Pathophysiology I 1 credit hour(s)**
- **RT 1090 - Clinical Experiences I 4 credit hour(s)**
- **RT 1092 - Respiratory Therapy Lab I 1 credit hour(s)**

### Term 3 (Typically Offered Summer Only)

- **RT 1030 - Pharmacology of Respiratory Therapy 3 credit hour(s)**
- **RT 1560 - Respiratory Therapy II 3 credit hour(s)**
- **RT 1593 - Respiratory Therapy Lab II 1 credit hour(s)**
- **RT 1580 - Cardiopulmonary Pathophysiology II 1 credit hour(s)**
- **RT 1590 - Clinical Experiences II 4 credit hour(s)**

### Term 4 (Typically Offered Fall Only)

- **BIO 2110 - Microbiology 3 credit hour(s)**
- **BIO 2192 - Microbiology Laboratory 1 credit hour(s)**
- **RT 2060 - Advanced Respiratory Therapy I 3 credit hour(s)**
- **RT 2080 - Cardiopulmonary Pathophysiology III 2 credit hour(s)**
- **RT 2090 - Advanced Clinical Experiences I 4 credit hour(s)**
- **RT 2093 - Advanced Respiratory Therapy Lab I 1 credit hour(s)**

### Term 5 (Typically Offered Spring Only)

- **Human Relations Requirement 3 credit hours \*\***
- **RT 2460 - Advanced Respiratory Therapy II 3 credit hour(s)**
- **RT 2480 - Cardiopulmonary Pathophysiology IV 2 credit hour(s)**
- **RT 2490 - Advanced Clinical Experiences II 4 credit hour(s)**
- **RT 2492 - Advanced Respiratory Therapy Lab II 1 credit hour(s)**

## **Associate of Applied Science in Respiratory Therapy 67-68 credit hours**

\* **MATH 1330 - Introduction to Probability and Statistics recommended**

# Sociology

## Sociology, Associate of Arts

### School of Communication, Humanities & Social Sciences (CHSS)

Sociology is a social science that examines the social lives of individuals, groups, and societies. The discipline covers a range of topics, from the analysis of short contacts between anonymous individuals on the street to the study of global social processes. Information about career options for sociology majors is offered by the American Sociological Association.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)\***
- SOC 1101 - Introduction to Sociology **3 credit hour(s)**

#### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

#### Term 3

- **Elective 6 credit hour(s)**
  
- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

#### Term 4

- **Elective 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Sciences Requirement 3 credit hour(s)**
- SOC 2999 - Sociology Capstone **3 credit hour(s)**

## Associate of Arts in Sociology 60-61 credit hours

This information is meant to serve as a general guide for students intending to major in Sociology. Specific requirements for transfer will vary from school to school. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

**\* MATH 1330 recommended for transfer to NMHU.**

## Program Approved Electives

UNM transfer students should choose their CNM Sociology courses based on their intended emphasis in their sociology major at UNM. Choose from the following list of courses:\*

- SOC 2212 - Juvenile Delinquency **3 credit hour(s)**
- SOC 2215 - Criminology **3 credit hour(s)**
- SOC 2230 - Society and Personality **3 credit hour(s)**
- SOC 2235 - Sociology of Gender **3 credit hour(s)**
- SOC 2250 - Social Problems Facing Children **3 credit hour(s)**
- SOC 2280 - Social Science Research **3 credit hour(s)**

**\* MATH 1330 required for UNM Sociology Majors**

## UNM Pre-Law Transfer Track Approved Electives

- SOC 2205 - Crime Public Policy and the Criminal Justice System **3 credit hour(s)**
- SOC 2211 - Social Problems **3 credit hour(s)**
- SOC 2213 - Deviant Behavior **3 credit hour(s)**

## UNM Human Services & Social Policy Transfer Track Approved Electives

- SOC 2211 - Social Problems **3 credit hour(s)**
- SOC 2216 - Ethnic and Minority Groups **3 credit hour(s)**
- SOC 2225 - Sociology of Family **3 credit hour(s)**

# Surgical Technology

## Sterile Processing Technician, Certificate of Achievement

### School of Health, Wellness & Public Safety (HWPS)

Sterile Processing Technician is a one term program that presents the knowledge and skills necessary to work in a hospital's Central Supply or Sterile Processing Department. Students will develop skills necessary to properly disinfect, prepare, process, store and issue both sterile and nonsterile supplies and equipment for patient care. Also, students will learn to operate sterilizing units and monitor effectiveness of the sterilization process. The learning environment consists of the campus classroom and laboratory.

Graduates will receive a certificate and may be eligible to apply to take the National Institute for Certification of Healthcare Sterile Processing and Distribution Personnel Examination (CBSPD). Employment opportunities include surgery centers, dialysis facilities, and central processing units in hospitals.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

- SPT 1010 - Basics of Sterile Processing **2 credit hour(s)**
- SPT 1092 - Sterile Processing Lab **2 credit hour(s)**

## Certificate of Achievement in Sterile Processing Technician **4 credit hours**

## Surgical Technology, Associate of Applied Science

## School of Health, Wellness & Public Safety (HWPS)

Surgical Technology is an associate degree program that presents the knowledge and skills necessary to work in a surgical environment and function as a vital member of the operating room team. The learning environment consists of the campus classroom and laboratory along with local hospitals, day surgery centers and physicians' offices. Accreditation is from the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Students will be administered the Surgical Technologist National Certifying Examination just prior to graduation. Surgical Technologists who take and pass this examination are certified and authorized to use the initials CST to designate their status as Certified Surgical Technologist.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- **High School Diploma or Equivalent**
- **Math Proficiency 2**
- **Reading & Writing Proficiency 2**
- **Biology Proficiency**

## Recommended Sequence of Courses

### Term 1

- BIO 2210 - Human Anatomy and Physiology I **3 credit hour(s)**
- BIO 2292 - Human Anatomy and Physiology I Lab **1 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HIT 1020 - Medical Terminology and Anatomy **3 credit hour(s)**
  
- BPCS 1092 - Basic Patient Care Skills **1 credit hour(s)**  
or
- NA 1020 - Principles of Nursing Assistant **3 credit hour(s)\***  
and
- NA 1093 - Principles of Nursing Assistant Lab **2 credit hour(s)\***  
and
- NA 1190 - Nursing Assistant Clinical **1 credit hour(s)\***

### Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- BIO 2310 - Human Anatomy and Physiology II **3 credit hour(s)**
- BIO 2392 - Human Anatomy and Physiology II Lab **1 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- ST 1001 - Introduction to Surgical Technology **2 credit hour(s)**

### Term 3 (Typically Offered in Summer and Fall Only)

This program's first term courses are typically offered in the Summer and Fall term. This may delay a student's program start date. Please check with an Academic Coach for more information.

- HLTH 1001 - Clinical Preparation **1 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- ST 1010 - Beginning Surgical Technology I **3 credit hour(s)**
- ST 1092 - Surgical Technology Lab I **6 credit hour(s)**

### Term 4 (Typically Offered Fall and Spring Only)

- ST 1510 - Beginning Surgical Technology II **3 credit hour(s)**
- ST 1590 - Surgical Technology Clinical I **8 credit hour(s)**

- ST 1592 - Surgical Technology Lab II **2 credit hour(s)**

### Term 5 (Typically Offered Spring and Summer Only)

- ST 2010 - Surgical Technology III **3 credit hour(s)**
- ST 2090 - Surgical Technology Clinical II **8 credit hour(s)**
- ST 2092 - Surgical Technology Lab III **2 credit hour(s)**

## Associate of Applied Science in Surgical Technology, 62-68 credit hours

\* HLTH 1001 is a pre- or corequisite course for NA 1020

# Surveying Technology

## Surveying Engineering, Associate of Science

### School of Applied Technologies (AT)

Surveyors measure distances, direction and angles between points on, above and below the earth's surface. In the field, they select known survey reference points and determine the precise location of important features in the survey area using specialized equipment.

Surveyors also research legal records, look for evidence of previous boundaries, and analyze data to determine the location of boundary lines. They are sometimes called to provide expert testimony in court regarding their work or the work of other surveyors.

Surveyors also record their results, verify the accuracy of data, and prepare plots, maps, and reports using specialized software.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1315
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- GIS 1002 - Fundamentals of Geospatial Technology **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- MATH 1410 - Trigonometry **3 credit hour(s)**
- SUR 1001 - Introduction to Surveying Engineering **1 credit hour(s)**

#### Term 2

- CAD 1001 - Basics of CAD **1 credit hour(s)**
- CM 2205 - Construction Layout and Land Surveying **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- GIS 1001 - Introduction to GIS **3 credit hour(s)**
- GIS 1008 - Land Information Systems **3 credit hour(s)**
- MATH 1415 - Advanced Algebra **4 credit hour(s)**

#### Term 3

- CIS 1250 - Python Programming I **3 credit hour(s)** \*
- or
- CIS 1275 - C++ Programming I **3 credit hour(s)**

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
- GIS 1005 - CAD for Surveying and GIS **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- MATH 1710 - Calculus I **4 credit hour(s)**

#### Term 4

- ECON 2200 - Macroeconomics **3 credit hour(s)**
- **Laboratory Science Requirement 3 credit hour(s)**
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
- PHYS 1792 - Calculus-Based Physics I Laboratory **1 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- SUR 1015 - Boundary Survey Concepts **3 credit hour(s)**

### **Associate of Science Degree in Surveying Engineering 66 credit hours**

\* CIS 1250 - Python Programming I recommended for Students interested in Geographic Information Systems.

## **Surveying Technology, Certificate of Completion**

#### **School of Applied Technologies (AT)**

The Surveying Technology Certificate of Completion program at CNM is designed to meet the requirements for employment in the surveying and mapping industry. Students will obtain a thorough grounding in the technical aspects of surveying. The program is enhanced by including Geographic Information Systems courses to produce a well-rounded background in the geospatial mapping fields.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### Term 1

- CAD 1001 - Basics of CAD **1 credit hour(s)**
- CM 2205 - Construction Layout and Land Surveying **3 credit hour(s)**
- GIS 1002 - Fundamentals of Geospatial Technology **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- SUR 1002 - Math for Surveying and Mapping **1 credit hour(s)**

#### Term 2

- GIS 1001 - Introduction to GIS **3 credit hour(s)**
- GIS 1005 - CAD for Surveying and GIS **3 credit hour(s)**
- GIS 1008 - Land Information Systems **3 credit hour(s)**
- SUR 1015 - Boundary Survey Concepts **3 credit hour(s)**

#### Term 3

- **Approved Surveying/GIS Elective 1 credit hour(s)**

- GIS 2008 - GPS Field Mapping **2 credit hour(s)**
- SUR 2002 - Intermediate Surveying Topics **3 credit hour(s)**
- SUR 2001 - Intermediate Field Procedures **3 credit hour(s)**

## **Certificate of Completion in Surveying Technology 32 credit hours**

### **Approved Surveying/GIS Electives**

- GIS 1096-1996 - Special Topics **1-6 credit hour(s)**
- GIS 2096-2996 - Special Topics **1-7 credit hour(s)**
- SUR 2096-2996 - Special Topics **1-7 credit hour(s)**

## **Teacher Education**

### **Teacher Education (AA), Elementary/Special Education Concentration (effective Fall 2017)**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom. Students interested in teaching in the early grades (PreK-3rd grade) should also consider the Birth-3rd Grade Teacher concentration in the Early Childhood Multicultural Education Degree.

The Teacher Education degree with a concentration in Elementary and Special Education is designed to transfer to most New Mexico Colleges of Education in Elementary, Special Education or dual Elementary/Special Education licensure pathways.

See Recommended Sequence of Courses

### **Special Requirements**

Students must pass a criminal background check prior to beginning their field / practicum experience.

All courses required for transfer must be taken for a traditional grade of A, B, C, etc.

## **Educational Opportunities**

The Education Department also offers courses for students who have already earned a bachelor's degree and want to transition to teaching through Alternative Teacher Licensure in the following areas:

Elementary (K-8)

Secondary (7-12)

Special Education (K-12)

Students should refer to the Alternative Teacher Licensure, Elementary / Special Ed for the recommended course sequence for each Alternative Teacher Licensure area.

Students transferring to a New Mexico College of Education are required to take the NES Essential Academic Skills exam as part of the program admission process. It is recommended that students take the NES Essential Academic Skills test in their final semester of the program after the majority of their coursework has been completed.

## **Career Opportunities**

The associate of arts degree enables graduates to serve as educational assistants or substitute teachers within New Mexico public schools. Graduates from the program may transfer to four-year institutions that grant bachelor's degrees in education.

Teaching remains a high demand field in New Mexico, especially in the areas of Bilingual Elementary, Secondary (Math or Science), and Special Education. The starting salary for teachers in New Mexico public schools is \$34,000. Within 7 years of teaching, teachers can move to a salary of \$50,000.

## **Program Proficiencies and/or Prerequisites**



Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 **or** MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
**or**
- HIST 1161 - History of the United States I **3 credit hour(s)**  
**or**
- HIST 1162 - History of the United States II **3 credit hour(s)**  
**or**
- HIST 2260 - History of New Mexico **3 credit hour(s)**
  
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**  
**or**
- Social/Behavioral Science Requirement (**3 credit hours**)

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- EDUC 1102 - Introduction to Teaching **3 credit hour(s)**
- EDUC 1190 - Teacher Education Practicum **1 credit hour(s)**
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
**or**
- HIST 1161 - History of the United States I **3 credit hour(s)**  
**or**
- HIST 1162 - History of the United States II **3 credit hour(s)**  
**or**
- HIST 2260 - History of New Mexico **3 credit hour(s)**
  
- MATH 1110 - Math for Teachers I **3 credit hour(s)**

### Term 3

- MATH 2110 - Math for Teachers III **3 credit hour(s)**

- or
- MATH 1315 - College Algebra **3 credit hour(s)**
- NS 1010 - Physical Science for Teachers **4 credit hour(s)**
- or
- NS 1015 - Life Science for Teachers **4 credit hour(s)**
- or
- NS 2010 - Environmental Science for Teachers **4 credit hour(s)**
- or
- Laboratory Science Requirement **4 credit hours**
- Social/Behavioral Science Requirement (ANTH; ECON; GEOG; PSCI, SOC recommended) **3 credit hour(s)**
- SPED 2201 - Introduction to Special Education **3 credit hour(s)**
- EDUC 2315 - Educating Linguistically and Culturally Diverse Students **3 credit hour(s)**

#### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**
- or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s)**
- NS 1010 - Physical Science for Teachers **4 credit hour(s)**
- or
- NS 1015 - Life Science for Teachers **4 credit hour(s)**
- or
- NS 2010 - Environmental Science for Teachers **4 credit hour(s)**
- or
- Laboratory Science Requirement **4 credit hours**
- EDUC 2243 - Children's Literature **3 credit hour(s)**
- **Social/Behavioral Science Requirement** (ANTH; ECON; GEOG; PSCI, SOC recommended) **3 credit hour(s)**

### **Associate of Arts in Teacher Education, Elementary/Special Education Concentration 60 credit hour(s)**

#### **Additional Notes**

It is strongly recommended that students fulfill the Laboratory Science Requirements with the following courses: NS 1010: Physical Science for Teachers, NS 1015: Life Science for Teachers, and/or NS 2010: Environmental Science for Teachers. These courses are aligned to the NES Test Framework for the Elementary Education Subtest II that is required for elementary education licensure.

We encourage students to meet with an advisor to review the transfer requirements of the college where they intend to complete their degree to determine if there are additional general education course requirements that can be completed at CNM.

### **Teacher Education (AA), Secondary Concentration (effective Fall 2017)**

#### **School of Communication, Humanities & Social Sciences (CHSS)**

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom.

This program leads to an Associate of Arts degree in Teacher Education with a concentration in Secondary Education. Students will choose a subject area track in Math, Science, Language Arts, Social Studies or Spanish. In New Mexico, teachers must complete one or more teaching fields (endorsements) to apply for a Secondary Teaching License (grades 7-12).

- See Recommended Sequence of Courses

## Special Requirements

- Students must pass a criminal background check prior to beginning their field / practicum experience.
- All courses required for transfer must be taken for a traditional grade of A, B, C, etc.

## Educational Opportunities

The Education Department also offers courses for students who have already earned a bachelor's degree and want to transition to teaching through Alternative Teacher Licensure in the following areas:

- Elementary (K-8)
- Secondary (7-12)
- Special Education (K-12)

Students should refer to the Alternative Teacher Licensure website for more information about the program.

Students transferring to a New Mexico College of Education for teacher licensure are required to take the NES Essential Academic Skills exam as part of the program admission process. It is recommended that students take the NES Essential Academic Skills test in their final semester of the program after the majority of their coursework has been completed.

## Career Opportunities

The associate of arts degree enables graduates to serve as educational assistants or substitute teachers within New Mexico public schools. Graduates from the program may transfer to four-year institutions that grant bachelor's degrees in education.

Teaching remains a high demand field in New Mexico, especially in the areas of Bilingual Elementary, Secondary (Math or Science), and Special Education. The starting salary for teachers in New Mexico public schools is \$34,000. Within 7 years of teaching, teachers can move to a salary of \$50,000.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

Teacher Licensure requirements may vary for specific disciplines. Consult an academic coach or the program director in selecting electives and meeting requirements.

### Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hours**
- **Mathematics Requirement 3 credit hour(s)**
- EDUC 1102 - Introduction to Teaching **3 credit hour(s) (FALL/SPRING)**
- EDUC 1190 - Teacher Education Practicum **1 credit hour(s)**

### Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hours**
- **EDUC 2315 - Educating Linguistically and Culturally Diverse Students 3 credit hours**
- **Program Approved Elective (See Content Area Tracks) 6 credit hours**

### Term 3

- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- **EDUC 2207 - Learning in the Classroom 3 credit hour(s)**

#### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- **Program Approved Elective (See Content Area Tracks) 6 credit hour(s)**

### **Associate of Arts in Teacher Education, Secondary Concentration 60 credit hours**

#### **Secondary Education: Content Area Tracks**

##### Secondary Education Content Area Tracks (12 credits)\*\*

In New Mexico, teachers must complete one or more teaching fields (endorsements) to apply for a Secondary Teaching License (grades 7-12). Students are advised to choose one teaching field from the tracks listed below as program approved electives to fulfill the teaching field requirements for the Teacher Education Secondary Concentration.

##### Language Arts Content Area (12 credit hours):

ENG 2262 - Survey of Earlier World Literature  
 ENG 2263 - Survey of Later World Literature  
 ENG 2287 - Earlier American Literature  
 ENG 2240 - Traditional Grammar ENG 2219 - Technical Writing

##### Social Studies Content Area (12 credit hours):

GEOG 2201 - World Regional Geography  
 PSCI 2200 - U.S. Politics  
 PSCI 2220 - Comparative Government and Politics  
 SOC 2216 - Ethnic and Minority Groups

##### Spanish Content Area (12 credit hours):

SPAN 1101 - Beginning Spanish **or** SPAN 1111 - Heritage Spanish Language  
 SPAN 1102 - Beginning Spanish II **or** SPAN 1112 - Heritage Spanish Language II  
 SPAN 2201 - Intermediate Spanish I  
 SPAN 2202 - Intermediate Spanish II  
 SPAN 2203 - Intermediate Spanish II Conversation  
 SPAN 2280 - Introduction to Hispanic Literature

##### Math Content Area (12 credit hours):

CSCI 1153 - Programming in Matlab  
 MATH 1710 - Calculus I  
 MATH 1715 - Calculus II MATH 2710 - Calculus III

##### Science Content Area (12 credit hours):

BIO 1510 - Molecular and Cell Biology  
BIO 1592 - Molecular and Cell Biology Laboratory  
BIO 1610 - Genetics  
BIO 1692 - Genetics Laboratory  
CHEM 1710 - General Chemistry I  
CHEM 1792 - General Chemistry I Lab  
CHEM 1810 - General Chemistry II  
CHEM 1892 - General Chemistry II Lab  
EPS 1101 - Introduction to Geology  
EPS 1192 - Introduction to Geology Laboratory  
EPS 2201 - Earth History  
EPS 2292 - Earth History Laboratory  
PHYS 1510 - Algebra-Based Physics I  
PHYS 1592 - Algebra-Based Physics I Laboratory  
PHYS 1610 - Algebra-Based Physics II  
PHYS 1692 - Algebra-Based Physics II Laboratory

## Additional Notes

We encourage students to meet with an advisor to review the transfer requirements of the college where they intend to complete their degree to determine if there are additional general education course requirements that can be completed at CNM.

## Teacher Education (AA), Bilingual Elementary Concentration (expires Summer Term, August 6th, 2017)

### School of Communication, Humanities & Social Sciences (CHSS)

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom. Students interested in teaching in the early grades (PreK-3rd grade) should also consider the Birth-3rd Grade Teacher concentration in the Early Childhood Multicultural Education Degree.

This program leads to an Associate of Arts degree in one of five concentrations:

- Career and Technical Education: This concentration is designed for students who have already earned a certificate and/or AAS degree in selected vocational/technical areas. Examples of approved certificate/AAS include: automotive technology, culinary arts, electronics technology, manufacturing, and welding.
- Elementary Education
- Bilingual Elementary Education
- Secondary Education
- Special Education

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 or MATH 1310
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- ANTH 1110 - Language Culture and the Human Animal **3 credit hour(s)**

- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)\***  
**or**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
**or**
- HIST 1161 - History of the United States I **3 credit hour(s)**  
**or**
- HIST 1162 - History of the United States II **3 credit hour(s)**

## Term 2

- EDUC 1102 - Introduction to Teaching **3 credit hour(s)**
- EDUC 2204 - Child Development **3 credit hour(s)\***  
**or**
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
**or**
- HIST 1161 - History of the United States I **3 credit hour(s)**  
**or**
- HIST 1162 - History of the United States II **3 credit hour(s)**
- MATH 1110 - Math for Teachers I **3 credit hour(s)**

## Term 3

- ARTH 1101 - Introduction to Art **3 credit hour(s)**  
**or**
- ARTH 2201 - History of Art I **3 credit hour(s)**  
**or**
- ARTH 2202 - History of Art II **3 credit hour(s)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**

- HIST 1102 - Western Civilization II **3 credit hour(s)**  
or
- HIST 1161 - History of the United States I **3 credit hour(s)**  
or
- HIST 1162 - History of the United States II **3 credit hour(s)**
  
- **Laboratory Science Requirement 4 credit hour(s)**
  
- MATH 1115 - Math for Teachers II **3 credit hour(s)**  
or
- MATH 1315 - College Algebra **3 credit hour(s)**

#### Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s)\* \***
  
- **Laboratory Science Requirement 4 credit hour(s)**
  
- MUS 1139 - Early Music Appreciation **3 credit hour(s)**  
or
- MUS 1140 - Modern Music Appreciation **3 credit hour(s)**  
or
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**
- SPAN 1101 - Beginning Spanish **4 credit hour(s) (or higher)**

#### Term 5

- HIST 2260 - History of New Mexico **3 credit hour(s)**
  
- **Laboratory Science Requirement 4 credit hour(s)**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**
  
- SPAN 1102 - Beginning Spanish II **4 credit hour(s)**  
(or higher)

### **Associate of Arts in Teacher Education, Bilingual Elementary Concentration 72 credit hours**

\* Recommended for transfer to UNM

\*\* Recommended for transfer to NMHU

### **Teacher Education (AA), Career and Technical Education Concentration (expires**

## Summer Term, August 6th, 2017)

### School of Communication, Humanities & Social Sciences (CHSS)

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom.

This program leads to an Associate of Arts degree in one of five concentrations:

Career and Technical Education: This concentration is designed for students who have already earned a certificate and/or AAS degree in selected vocational/technical areas. Examples of approved certificate/AAS include: automotive technology, culinary arts, electronics technology, manufacturing, and welding.

- Elementary Education
- Bilingual Elementary Education
- Secondary Education
- Special Education

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310
- Reading & Writing Proficiency 2

### Required Courses

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s)**
  
- EDUC 1102 - Introduction to Teaching **3 credit hour(s)**
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**  
or
- ENG 1119 - Technical Communications **3 credit hour(s)**
  
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- **Laboratory Science Requirement 8 credit hour(s) 8 credit hour(s)**
- MATH 1315 - College Algebra **3 credit hour(s)**
- **Social/Behavioral Science Requirement 6 credit hour(s)**
- **Approved Technical Certificate/Associate of Applied Science Degrees 28+ credit hour(s)**

### Associate of Arts in Teacher Education, Career and Technical Concentration 70 credit hours

Approved Technical Certificate/AAS Degrees



Students must see program director if certificate/degree is not included in this list as eligibility for degree is guided by teacher licensure regulations.

- Automotive Technology, Certificate of Completion
- Baking, Certificate of Completion
- Carpentry, Certificate of Completion
- Construction Management Technology, Associate of Applied Science
- Construction Technology (AAS), General Construction Concentration
- Culinary Arts (AAS), Advanced Baking and Pastry Concentration
- Culinary Arts (AAS), Culinary Arts Concentration
- Culinary Fundamentals, Certificate of Completion
- Electrical Trades (Certificate of Completion), General Concentration
- Food Service Management, Certificate of Completion
- Hospitality and Tourism, Associate of Arts
- Hospitality and Tourism, Certificate of Completion
- Machine Tool Technology, Certificate of Completion
- Machine Tool Technology, Associate of Applied Science
- Welding Technology, Associate of Applied Science
- Welding, Certificate of Completion

## **Teacher Education (AA), Elementary Concentration (expires Summer Term, August 6th, 2017)**

### **School of Communication, Humanities & Social Sciences (CHSS)**

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom. Students interested in teaching in the early grades (PreK-3rd grade) should also consider the Birth-3rd Grade Teacher concentration in the Early Childhood Multicultural Education Degree.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 **or** MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### **Term 1**

- EDUC 1102 - Introduction to Teaching **3 credit hour(s)**  
(FALL/SPRING)
  
- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)\***  
**or**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**

or

- HIST 1161 - History of the United States I **3 credit hour(s)**
- or
- HIST 1162 - History of the United States II **3 credit hour(s)**

## Term 2

- EDUC 2204 - Child Development **3 credit hour(s)\***
- or
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**
- or
- HIST 1102 - Western Civilization II **3 credit hour(s)**
- or
- HIST 1161 - History of the United States I **3 credit hour(s)**
- or
- HIST 1162 - History of the United States II **3 credit hour(s)**
  
- MATH 1110 - Math for Teachers I **3 credit hour(s)**

## Term 3

- ARTH 1101 - Introduction to Art **3 credit hour(s)**
- or
- ARTH 2201 - History of Art I **3 credit hour(s)**
- or
- ARTH 2202 - History of Art II **3 credit hour(s)**
  
- MATH 1115 - Math for Teachers II **3 credit hour(s)**
- or
- MATH 1315 - College Algebra **3 credit hour(s) (or higher)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**
- or
- HIST 1102 - Western Civilization II **3 credit hour(s)**
- or
- HIST 1161 - History of the United States I **3 credit hour(s)**
- or
- HIST 1162 - History of the United States II **3 credit hour(s)**
  
- **Laboratory Science Requirement 4 credit hour(s)**

## Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s)\***
  
- **Laboratory Science Requirement 4 credit hour(s)**
  
- MUS 1139 - Early Music Appreciation **3 credit hour(s)**  
or
- MUS 1140 - Modern Music Appreciation **3 credit hour(s)**  
or
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 5

- HIST 2260 - History of New Mexico **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## **Associate of Arts in Teacher Education, Elementary Concentration 61 credit hour(s)**

\* Recommended for transfer to UNM.

## **Teacher Education (AA), Secondary Concentration (expires Summer Term, August 6th, 2017)**

### **School of Communication, Humanities & Social Sciences (CHSS)**

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom.

This program leads to an Associate of Arts degree in one of five concentrations:

- Career and Technical Education: This concentration is designed for students who have already earned a certificate and/or AAS degree in selected vocational/technical areas. Examples of approved certificate/AAS include: automotive technology, culinary arts, electronics technology, manufacturing, and welding.
- Elementary Education
- Bilingual Elementary Education
- Secondary Education
- Special Education

## **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

Teacher Licensure requirements may vary for specific disciplines. Consult an academic coach or the program director in selecting electives and meeting requirements.

### Term 1

- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)\***  
or
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
- ENG 1101 - College Writing **3 credit hour(s)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
or
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
or
- HIST 1161 - History of the United States I **3 credit hour(s)**  
or
- HIST 1162 - History of the United States II **3 credit hour(s)**
  
- MATH 1315 - College Algebra **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### Term 2

- **Laboratory Science Requirement 4 credit hour(s)**
  
- EDUC 2204 - Child Development **3 credit hour(s)\***  
or
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
  
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
  
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
or
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
or
- HIST 1161 - History of the United States I **3 credit hour(s)**  
or
- HIST 1162 - History of the United States II **3 credit hour(s)**

### Term 3

- ARTH 1101 - Introduction to Art **3 credit hour(s)**  
or
- ARTH 2201 - History of Art I **3 credit hour(s)**  
or
- ARTH 2202 - History of Art II **3 credit hour(s)**

- **Laboratory Science Requirement 4 credit hour(s)**
- EDUC 1102 - Introduction to Teaching **3 credit hour(s) (FALL/SPRING)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
or
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
or
- HIST 1161 - History of the United States I **3 credit hour(s)**  
or
- HIST 1162 - History of the United States II **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

#### Term 4

- **Laboratory Science Requirement 4 credit hour(s)**
- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
  
or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s) (Recommended)**
- HIST 2260 - History of New Mexico **3 credit hour(s)**
- MUS 1139 - Early Music Appreciation **3 credit hour(s)**  
or
- MUS 1140 - Modern Music Appreciation **3 credit hour(s)**  
or
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

### **Associate of Arts in Teacher Education, Secondary Concentration 61 credit hours**

\* Recommended for transfer to UNM

#### Advisory Note

The Electives listed below are highly recommended for those interested in teaching Math or Science.

- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**

or

- CHEM 1710 - General Chemistry I **3 credit hour(s)**
  - CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**
  - PHYS 1510 - Algebra-Based Physics I **4 credit hour(s)**
  
  - PHYS 1592 - Algebra-Based Physics I Laboratory **1 credit hour(s)**
- or
- PHYS 1710 - Calculus-Based Physics I **4 credit hour(s)**
  
  - PHYS 1792 - Calculus-Based Physics I Laboratory **1 credit hour(s)**

## **Teacher Education (AA), Special Education Concentration (expires Summer Term, August 6th, 2017)**

### **School of Communication, Humanities & Social Sciences (CHSS)**

The Teacher Education associate degree program facilitates an introduction to learning the theory and skills required for working with children in the public school system (K-12). Students will also gain practical experience in the classroom.

This program leads to an Associate of Arts degree in one of five concentrations:

- Career and Technical Education: This concentration is designed for students who have already earned a certificate and/or AAS degree in selected vocational/technical areas. Examples of approved certificate/AAS include: automotive technology, culinary arts, electronics technology, manufacturing, and welding.
- Elementary Education
- Bilingual Elementary Education
- Secondary Education
- Special Education

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2 **or** MATH 1310
- Reading & Writing Proficiency 2

### **Recommended Sequence of Courses**

#### Term 1

- EDUC 2265 - Technology Integration in the Classroom **3 credit hour(s)\***
- or
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
  
  - ENG 1101 - College Writing **3 credit hour(s)**
  
  - HIST 1101 - Western Civilization I **3 credit hour(s)**
- or
- HIST 1102 - Western Civilization II **3 credit hour(s)**
- or
- HIST 1161 - History of the United States I **3 credit hour(s)**
- or

- HIST 1162 - History of the United States II **3 credit hour(s)**
- SPED 2201 - Introduction to Special Education **3 credit hour(s) (FALL/SPRING)**
- SPED 2290 - Introduction to Special Education Practicum **2 credit hour(s) (FALL/SPRING)**

## Term 2

- EDUC 2204 - Child Development **3 credit hour(s)**  
**or**
- EDUC 2207 - Learning in the Classroom **3 credit hour(s)**
- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
**or**
- HIST 1161 - History of the United States I **3 credit hour(s)**  
**or**
- HIST 1162 - History of the United States II **3 credit hour(s)**
- MATH 1110 - Math for Teachers I **3 credit hour(s)**

## Term 3

- ARTH 1101 - Introduction to Art **3 credit hour(s)**  
**or**
- ARTH 2201 - History of Art I **3 credit hour(s)**  
**or**
- ARTH 2202 - History of Art II **3 credit hour(s)**
- MATH 1115 - Math for Teachers II **3 credit hour(s)**  
**or**
- MATH 1315 - College Algebra **3 credit hour(s) (or higher)**
- HIST 1101 - Western Civilization I **3 credit hour(s)**  
**or**
- HIST 1102 - Western Civilization II **3 credit hour(s)**  
**or**
- HIST 1161 - History of the United States I **3 credit hour(s)**  
**or**
- HIST 1162 - History of the United States II **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

## Term 4

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**  
or
- COMM 2270 - Communication Studies for Teachers **3 credit hour(s)\***
- **Laboratory Science Requirement 4 credit hour(s) 4 credit hour(s)**
- MUS 1139 - Early Music Appreciation **3 credit hour(s)**  
or
- MUS 1140 - Modern Music Appreciation **3 credit hour(s)**  
or
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Term 5

- HIST 2260 - History of New Mexico **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

## Associate of Arts in Teacher Education, Special Education Concentration 62 credit hours

\* Recommended for transfer.

## Theatre

### Theatre, Associate of Arts

#### School of Communication, Humanities & Social Sciences (CHSS)

This is a degree intended for students pursuing professional acting careers or continuing on to a university to complete a bachelor's degree in Theatre.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- MATH 1210 or MATH 1310 or Math Proficiency 3
- Reading & Writing Proficiency 2

### Recommended Sequence of Courses

#### Term 1

- **Mathematics Requirement 3-4 credit hour(s)**
- ENG 1101 - College Writing **3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- THEA 1122 - Theatre Appreciation **3 credit hour(s)**



## Term 2

- ENG 1102 - Analytic and Argumentative Writing **3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- THEA 1119 - Introduction to Technical Theatre **3 credit hour(s)**
- THEA 1120 - Beginning Acting **3 credit hour(s)**

## Term 3

- COMM 1130 - Public Speaking **3 credit hour(s)**  
or
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s)**
  
- **Social/Behavioral Science Requirement 3 credit hour(s)**
  
- THEA 1121 - Beginning Acting II **3 credit hour(s)**  
or
- THEA 1169 - Introduction to Stage Lighting **3 credit hour(s)**
  
- THEA 1290 - Theatre Practicum I **1 credit hour(s)**
- THEA 2231 - Voice and Movement for Actors **3 credit hour(s)**

## Term 4

- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**
  
- THEA 2222 - Acting for the Camera **3 credit hour(s)**  
or
- THEA 2258 - Beginning Screenwriting: Short Form **3 credit hour(s)**
  
- THEA 2226 - Ensemble Improvisation **3 credit hour(s)**

## Associate of Arts in Theatre 61-62 credit hours

### Truck Driving

### Class B CDL, Certificate of Achievement

#### School of Applied Technologies (AT)

Single-term program providing basic instruction required to earn a Class B Commercial Driver's License (CDL). Students learn how to operate a Class B truck safely and efficiently through classroom, range, and over-the-road environments and through full-time and part-time course work. Class B students will receive a CNM Certificate of Achievement. The student will be able to drive Class B and C vehicles with this license, not tractor trailers. This program meets federal regulation requirements for entry-level drivers.

### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- TRDR 1420 - Class B Theory and Operational Practices **9 credit hour(s)**

## Certificate of Achievement in Class B CDL 9 credit hours

## Truck Driving, Certificate of Achievement

### School of Applied Technologies (AT)

Provides students basic instruction required to earn a Class A Commercial Driver's License (CDL).

Students learn how to operate a tractor-trailer truck safely and efficiently through classroom, range, and over-the-road environments and through full-time and part-time course work. The Class A program is certified by the Professional Truck Driver Institute (PTDI). Students who successfully complete the Class A program will receive both a CNM Truck Driving Certificate of Achievements and a PTDI certificate. Upon receipt of a Class A license the student will be able to drive Class A, B, and C vehicles. The student does not have to complete a Class B program to take this program of study. This program meets federal regulation requirements for entry-level drivers.

Lab Courses are held at off-campus locations.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

## Recommended Sequence of Courses

### Term 1

- TRDR 1120 - Basic Operational Theory and Practices **6 credit hour(s)**
- TRDR 1220 - Intermediate Truck Driving Theory and Practice **6 credit hour(s)**
- TRDR 1392 - Advanced Operational Practices **2 credit hour(s)**

## Certificate of Achievement in Truck Driving 14 credit hours

## Veterinary Sciences

## Veterinary Receptionist, Certificate of Achievement

### School of Health, Wellness & Public Safety (HWPS)

The Veterinary Receptionist certificate prepares students with entry level, reception / front office related skills to serve as receptionists or in customer care for veterinary offices, pet stores, feed or agricultural stores, or at grooming or boarding facilities. Students will explore the basics of a variety of animal health professions, acquire skills for reception / front office service, understand veterinary professionalism, and gain skills to excel in veterinary customer service. Veterinary medical terminology and vocabulary supporting animal care fields are included in the certificate courses.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2

- Reading & Writing Proficiency 2

## Term 1

- ENG 1101 - College Writing **3 credit hour(s)**
- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- VT 1005 - Veterinary Reception Basic Skills **3 credit hour(s)**
- VT 1011 - Introduction to the Veterinary Profession **3 credit hour(s)**

## Certificate of Achievement in Veterinary Receptionist 12 credit hours

### Veterinary Technology, Associate of Applied Science

#### School of Health, Wellness & Public Safety (HWPS)

Veterinary technology is a career in which skilled veterinary technicians participate in the exciting and challenging field of veterinary medicine working with animals and their owners under the supervision of veterinarians. The five-term Associate of Applied Science degree program provides didactic, lab and clinical experiences necessary for employment in the field of veterinary care and technology. Upon completion of the program, the graduate is ready to be an integral part of the veterinary health care team providing care and support to animals.

Graduates are eligible to sit for the Veterinary Technician National Examination and the New Mexico Board of Veterinary Practice Act Examination. Upon passing both examinations successfully, the applicant is eligible for licensure by the New Mexico Board of Veterinary Medicine (NMBVM) as a Registered Veterinary Technician. The American Veterinary Medical Association (AVMA) Council on Education (COE) and Committee on Veterinary Technician Education and Activities (CVTEA) nationally accredits the Program.

#### Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Coordinated Entry Program
- Math Proficiency 2
- Reading & Writing Proficiency 2

### Required Sequence of Courses

#### Term 1

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- BIO 1410 - Biology for Health Sciences **3 credit hour(s)**  
**and**
- BIO 1492 - Biology for Health Sciences Laboratory **1 credit hour(s)**  
**or**
- BIO 1510 - Molecular and Cell Biology **3 credit hour(s)**  
**and**
- BIO 1592 - Molecular and Cell Biology Laboratory **1 credit hour(s)**
- CHEM 1410 - Introduction to Chemistry **3 credit hour(s)**  
**and**
- CHEM 1492 - Introduction to Chemistry Laboratory **1 credit hour(s)**  
**or**
- CHEM 1710 - General Chemistry I **3 credit hour(s)**  
**and**
- CHEM 1792 - General Chemistry I Lab **1 credit hour(s)**

- ENG 1101 - College Writing **3 credit hour(s)**

### Term 2 (Coordinated Entry - Typically Offered Fall Only)

- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- VT 1008 - Applied Mathematics for Veterinary Technicians **1 credit hour(s)**
- VT 1011 - Introduction to the Veterinary Profession **3 credit hour(s)**
- VT 1012 - Introduction to Animal Care **2 credit hour(s)**
- VT 1070 - Animal Comparative Anatomy and Physiology **3 credit hour(s)**
- VT 1292 - Veterinary Office and Hospital Procedures Lab **1 credit hour(s)**

### Term 3 (Typically Offered Spring Only)

- **Program Approved Elective 1-2 credit hour(s)**
- PSY 1105 - Introduction to Psychology **3 credit hour(s)**
- VT 1210 - Animal Comparative Anatomy and Physiology II **3 credit hour(s)**
- VT 1251 - Radiology for Veterinary Technicians Lecture **1 credit hour(s)**
- VT 1272 - Surgical Technology for Veterinary Technicians **2 credit hour(s)**
- VT 1293 - Radiology for Veterinary Technicians Laboratory **1 credit hour(s)**
- VT 2015 - Non-Infectious and Infectious Diseases for Veterinary Technicians **3 credit hour(s)**

### Term 4 (Typically Offered Summer Only)

- VT 2010 - Clinical Pathology for Veterinary Technicians I **4 credit hour(s)**
- VT 2190 - Veterinary Technology Clinical I **4 credit hour(s)**
- VT 2674 - Applied Therapeutics and Care for Veterinary Technicians I **2 credit hour(s)**

### Term 5 (Typically Offered Fall Only)

- VT 2610 - Clinical Pathology for Veterinary Technicians II **4 credit hour(s)**
- VT 2651 - Anesthesiology for Veterinary Technicians Lecture **2 credit hour(s)**
- VT 2692 - Anesthesiology for Veterinary Technicians Lab **1 credit hour(s)**
- VT 2690 - Veterinary Technology Clinical II **3 credit hour(s)**

### Term 6 (Typically Offered Spring Only)

- VT 2803 - Pharmacology for Veterinary Technicians **3 credit hour(s)**
- VT 2884 - Applied Therapeutic II Avian Laboratory Exotic and Large Animals **4 credit hour(s)**
- VT 2890 - Veterinary Technology Clinical III **3 credit hour(s)**
- VT 2892 - Dentistry for Veterinary Technicians **1 credit hour(s)**

## **Associate of Applied Science in Veterinary Technology 72-74 credit hours**

### Program Approved Electives

- VT 1003 - Preparation for Professional Success **1 credit hour(s)**
- VT 1005 - Veterinary Reception Basic Skills **3 credit hour(s)**
- VT 1192 - Supplemental Lab **1 credit hour(s)**
- VT 2592 - Advanced Supplemental Lab for Veterinary Technology (CR/NC) **1 credit hour(s)**

## **Welding**

# Welding Technology, Associate of Applied Science

## School of Applied Technologies (AT)

Students will study hands-on Welding Technology, which includes blueprint reading, mathematics, metallurgy and other general course work. Classes include classroom and lab time. Upon completion of this program, graduates will be eligible for entry level employment in a variety of industrial careers.

## Program Proficiencies and/or Prerequisites

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 2

## Recommended Sequence of Courses

### Term 1

- WELD 1005 - Welding Blueprint Reading I **2 credit hour(s)**
- WELD 1020 - Introduction to Metallurgy **2 credit hour(s)**
- WELD 1030 - Welding Math **3 credit hour(s)**
- WELD 1050 - Oxyacetylene Welding and Cutting **2 credit hour(s)**
- WELD 1150 - Introduction to SMAW **2 credit hour(s)**
- WELD 1250 - Introduction to GTAW and Fabrication Lab **2 credit hour(s)**
- WELD 1350 - Introduction to GMAW and Fabrication **2 credit hour(s)**

### Term 2

- IT 1010 - Computer Concepts and Software Applications **3 credit hour(s)**
- WELD 1025 - Welding Blueprint Reading II **2 credit hour(s)**
- WELD 1160 - Advanced SMAW **2 credit hour(s)**
- WELD 1260 - Advanced GTAW and Fabrication **2 credit hour(s)**
- WELD 1360 - Advanced GMAW and Fabrication **2 credit hour(s)**
- WELD 1460 - Pipe Layout and Welding **2 credit hour(s)**
- WELD 2001 - Advanced Blueprint Reading **2 credit hour(s)**

### Term 3

- ENG 1101 - College Writing **3 credit hour(s)**
- **Program Approved Elective(s) 3 credit hours**
- WELD 1040 - Welding Technology CAD/CNC **2 credit hour(s)**
- WELD 1170 - Qualifications for SMAW **2 credit hour(s)**
- WELD 1270 - Qualifications for GTAW **2 credit hour(s)**
- WELD 1370 - Qualifications for GMAW **2 credit hour(s)**
- WELD 1570 - Project and Fabrication **2 credit hour(s)**

### Term 4

- **AAS Mathematics Requirement 3-4 credit hour(s)**
- COMM 2221 - Interpersonal Communication Studies **3 credit hour(s) (or higher)**
  
- **Humanities/Fine Arts Requirement 3 credit hour(s)**
- **or**
- **Social/Behavioral Science 3 credit hour(s)**

- OSH 2010 - Occupational Safety for Construction - 30 Hour **3 credit hour(s)**  
or
- OSH 2030 - Occupational Safety General Industry 30 Hour **3 credit hour(s)**
- WELD 1480 - Qualifications for Pipe **2 credit hour(s)**
- WELD 1580 - Advance Project and Fabrication Lab **2 credit hour(s)**
- WELD 2999 - Welding Capstone Course **1 credit hour(s)**

## **Associate of Applied Science in Welding Technology 63-64 credit hours**

### **Program Approved Electives**

- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- AT 1030 - Applied Technologies in Manufacturing **3 credit hour(s)**
- MATT 1060 - Machine Tool Technology Skills **3 credit hour(s)**
- RPID 1005 - 3 Dimensional CAD **3 credit hour(s)**
- RPID 1010 - Design and Simulation **3 credit hour(s)**
- RPID 1015 - Prototype Fabrication I **3 credit hour(s)**
- RPID 1020 - Prototype Fabrication II **3 credit hour(s)**
- WELD 1062 - Welding Fundamentals **3 credit hour(s)**
- WELD 2096-2996 - Special Topics **1-7 credit hour(s)**

## **Welding, Certificate of Completion**

### **School of Applied Technologies (AT)**

Students will study hands-on Welding Technology, which includes blueprint reading, mathematics, metallurgy and other general course work. Classes include classroom and lab time. Upon completion of this program, graduates will be eligible for entry level employment in a variety of industrial careers.

### **Program Proficiencies and/or Prerequisites**

Students may demonstrate proficiency in these areas either by Diploma/GPA, placement exam scores, or specific course work.

- Math Proficiency 2
- Reading & Writing Proficiency 1

### **Recommended Sequence of Courses**

#### **Term 1**

- WELD 1005 - Welding Blueprint Reading I **2 credit hour(s)**
- WELD 1020 - Introduction to Metallurgy **2 credit hour(s)**
- WELD 1030 - Welding Math **3 credit hour(s)**
- WELD 1050 - Oxyacetylene Welding and Cutting **2 credit hour(s)**
- WELD 1150 - Introduction to SMAW **2 credit hour(s)**
- WELD 1250 - Introduction to GTAW and Fabrication Lab **2 credit hour(s)**
- WELD 1350 - Introduction to GMAW and Fabrication **2 credit hour(s)**

#### **Term 2**

- WELD 1025 - Welding Blueprint Reading II **2 credit hour(s)**
- WELD 2001 - Advanced Blueprint Reading **2 credit hour(s)**

- WELD 1160 - Advanced SMAW **2 credit hour(s)**
- WELD 1260 - Advanced GTAW and Fabrication **2 credit hour(s)**
- WELD 1360 - Advanced GMAW and Fabrication **2 credit hour(s)**
- WELD 1460 - Pipe Layout and Welding **2 credit hour(s)**

### Term 3

- WELD 1170 - Qualifications for SMAW **2 credit hour(s)**
- WELD 1270 - Qualifications for GTAW **2 credit hour(s)**
- WELD 1370 - Qualifications for GMAW **2 credit hour(s)**
- WELD 1570 - Project and Fabrication **2 credit hour(s)**
- **Program Approved Elective(s) 3 credit hour(s)**

## **Certificate of Completion in Welding 38 credit hours**

### Program Approved Electives

- AT 1005 - Survey of Applied Technologies **3 credit hour(s)**
- MATT 1060 - Machine Tool Technology Skills **3 credit hour(s)**
- WELD 1062 - Welding Fundamentals **3 credit hour(s)**
- WELD 2096-2996 - Special Topics **1-7 credit hour(s)**

# Course Descriptions

## Asian American Studies

### AAST 1150 - Introduction to Asian American Studies

3 credit hour(s)

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Investigates present-day perspectives and historical and social conditions that have shaped and affected the lives of Asian Americans.

## Accounting

### ACCT 1096-1996 - Special Topics

1-6 credit hour(s)

Presents various topics.

**Note(s):**All courses ending in 96 are special topics. (See Schedule of Classes.)

### ACCT 1109 - Business Math

3 credit hour(s)

**Pre- or corequisite:** MATH 0970 or higher or appropriate placement score.\*

Applies basic mathematical operations to business and accounting applications.

- \* Students need to have basic math skills for this course.

**Note(s):**

- This course is a Pre- or corequisite for ACCT 1115.

### ACCT 1110 - Introduction to Financial Accounting

6 credit hour(s)

**Pre- or corequisite:** MATH 1315 or higher.

**Recommended:** IRW 0980.\*

This course is offered via distance learning only. Students analyze and record business transactions, implement accrual basis accounting and prepare basic financial statements. In addition, students apply generally accepted accounting principles to the elements of the balance sheet. This class is fast-paced (double the normal pace of ACCT 1111 or ACCT 1112).

- \* Students need to have basic reading skills for this course.

**Note(s):**

- Last offered Spring 2016. Students graduating under catalogs prior to Fall 2016 will need to take ACCT 1115 in lieu of this course. Students will need to contact BIT School Advisor to request waiver of 3 credit hours.

### ACCT 1111 - Introduction to Financial Accounting IA

3 credit hour(s)

**Recommended:** MATH 0970 + IRW 0980 or appropriate placement score.\*

Students analyze and record business transactions, implement accrual basis accounting and prepare basic financial statements.

- \* Students need to have basic math and reading skills for this course.

**Note(s):**

- Last offered Summer 2016. Students graduating under catalogs prior to Fall 2016 will need to take ACCT 1115 in lieu of this course.

### ACCT 1112 - Introduction to Financial Accounting IB



**3 credit hour(s)****Prerequisite:** ACCT 1111.**Pre- or corequisite:** ACCT 1109 or MATH 1315 or higher.

Applies basic generally accepted accounting principles to the elements of the balance sheet.

**Note(s):**

- Last offered Fall 2016. Students graduating under catalogs prior to Fall 2016 who have not taken ACCT 1112 by the end of Fall 2016 will need to take ACCT 1115 and contact BIT School Advisor to request appropriate substitution or waiver.

**ACCT 1115 - Introduction to Financial Accounting****3 credit hour(s)****Pre- or corequisite:** ACCT 1109 or approved MATH course.**Recommended:** IRW 0980.\*

Analyze business transactions in accordance with generally accepted accounting principles (GAAP), their effects on the financial statements, financial analysis, and the interrelationships of the financial statements.

\* Students need to have basic reading skills for this course.

**ACCT 1120 - Payroll Accounting****3 credit hour(s)****Prerequisite:** ACCT 1110 or ACCT 1111 or ACCT 1115.**Pre- or corequisite:** ACCT 1140 + IT 1010.

Covers payroll accounting procedures and controls, tax and employment laws, and tax reports that form the core of payroll responsibilities.

**ACCT 1140 - Accounting Applications****3 credit hour(s)****Prerequisite:** (ACCT 1110 or ACCT 1112 or ACCT 1115) + IT 1010.**Pre- or corequisite:** BA 1121 or ENG 1101.

Applies the complete accounting process and practical problems to expand skills in the performance of accounting functions.

**ACCT 1210 - Introduction to Managerial Accounting****3 credit hour(s)****Prerequisite:** (ACCT 1110 or ACCT 1112 or ACCT 1115) + IT 1010.

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

**ACCT 1301 - Volunteer Tax Preparation****2 credit hour(s)****Recommended:** IT 1010.\*

Introduces basic tax return preparation issues and the software to do basic tax returns for low-income and elderly taxpayers.

- \* Student should have basic computer skills for this course.

**Note(s):**

- Offered spring term.

**ACCT 1398 - Volunteer Tax Internship****1 credit hour(s)****Pre- or corequisite:** ACCT 1301.

Students apply current tax code to prepare individual tax returns for low-income and elderly taxpayers. Volunteers must meet VITA volunteer eligibility requirements as defined by the IRS. A minimum of thirty hours of volunteer tax return preparation work during the spring term at one of CNM's Tax Help locations is required along with passing a certification examination.

**ACCT 1401 - Volunteer Tax Updates****1 credit hour(s)****Prerequisite:** ACCT 1301.

To ensure returning volunteers are updated on any new changes to the current tax code, and are refreshed on the tax software necessary to prepare individual tax returns for low-income and elderly taxpayers. Students must pass the certification examination to receive credit for the course.

**Note(s):**

- Offered Spring term.

**ACCT 1410 - QuickBooks Complete**

**3 credit hour(s)**

**Recommended:** ACCT 1111 or ACCT 1115.

Covers QuickBooks software for small business. Includes transaction recording for service and merchandising businesses, bank reconciliation, payroll and end-of-period procedures, financial reporting and conversion of business records into QuickBooks.

- \* Student should have basic accounting skills for this course.

**Note(s):**

- Course taught in a computer lab

**ACCT 1498 - Volunteer Tax Internship II**

**1 credit hour(s)**

**Prerequisite:** ACCT 1398.

**Pre- or corequisite:** ACCT 1401.

An opportunity for returning volunteers to receive credit while preparing individual tax returns for low-income and elderly taxpayers. Volunteers must meet VITA volunteer eligibility requirements as defined by the IRS and have passed the certification examination. A minimum of forty five hours of volunteer tax return preparation work during the spring term at an approved site location is required.

**Note(s):**

- Offered Spring term.

**ACCT 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** ACCT 1140 + department approval.

Provides students the opportunity to work a minimum of 135 hours in a new job experience in accounting or training-related supervised work. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**ACCT 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**All courses ending in 96 are special topics. (See Schedule of Classes.)

**ACCT 2097 - Independent Study**

**1-8 credit hour(s)**

**Prerequisite:** Department approval.

Requires the student and instructor to define a specific problem in the area of the student's interest and directly related to the program. Student develops and executes a solution applying analytical techniques and critical thinking to the problem. An oral presentation may be required.

**ACCT 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** ACCT 1140 + department approval.

Provides students the opportunity to work a minimum of 135 hours in a new job experience in accounting or training-related supervised workstations. Students are not paid for their work but are supervised jointly by CNM and the company.

**ACCT 2101 - Intermediate Accounting IA**

**3 credit hour(s)**

**Prerequisite:** ACCT 1140.

**Pre- or corequisite:** AAS Written Communication Requirement + AAS Mathematics Requirement.

Presents accounting theory, concepts, practical application and use of accounting facts and procedures in business contexts. Emphasis is on the rationale behind business transactions, the development of professional judgment and critical-thinking skills with regard to assets.

### **ACCT 2102 - Intermediate Accounting IB**

**3 credit hour(s)**

**Prerequisite:** ACCT 2101.

Continues ACCT 2101 and completes the focus on the asset side of the balance sheet and starts the study of liabilities and stockholders' equity issues.

### **ACCT 2103 - Intermediate Accounting II**

**3 credit hour(s)**

**Pre- or corequisite:** ACCT 2102.

Completes the accounting theory framework started in ACCT 2101 and ACCT 2102 with the remaining liabilities, stockholder equity issues and special topics.

### **ACCT 2230 - Cost Management Accounting**

**3 credit hour(s)**

**Prerequisite:** (ACCT 1210 + CIS 1173) or (ACCT 1210 + department approval).

Expands the student's ability to use job order and process costing systems as well as the student's ability to apply and analyze accounting information for decision making in planning and controlling business activities. This includes the collecting of cost information, cost estimation and allocation, standard costs, budgeting and cost-volume-profit relationships.

### **ACCT 2340 - Tax Accounting**

**3 credit hour(s)**

**Prerequisite:** ACCT 1110 or ACCT 1111 or ACCT 1112 or ACCT 1115 or (ACCT 1301 + ACCT 1398).

Covers fundamental characteristics of individual federal income taxes.

### **ACCT 2341 - Tax Accounting II**

**3 credit hour(s)**

**Prerequisite:** ACCT 1110 or ACCT 1111 or ACCT 1115.

**Recommended:** ACCT 2340.\*

Covers fundamental characteristics of income taxes for corporations, partnerships, sub-chapter S corporations and fiduciaries.

- \* Business related tax concepts taught in ACCT 2340 are helpful to students in understanding tax concepts in this course.

### **ACCT 2420 - Computerized Accounting**

**3 credit hour(s)**

**Prerequisite:** ACCT 1140 or ACCT 2101.

Employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.

**Note(s):**

- Course taught in a computer lab

### **ACCT 2510 - Governmental Accounting**

**3 credit hour(s)**

**Pre- or corequisite:** ACCT 2101.

Examines fund accounting for governmental entities.

### **ACCT 2520 - Auditing**

**3 credit hour(s)**

**Pre- or corequisite:** ACCT 2101.

Surveys auditing concepts that include audit standards, reports, professional ethics, legal liability, evidence accumulation, audit planning, internal control, transaction cycles, other engagements and operational auditing.

**ACCT 2999 - Capstone Course****1 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on assessment of student learning outcomes for the Accounting program of study.

**Note(s):**

- Should be taken in student's last term.

**Air Force Aerospace Studies****AFAS 1120 - The Foundation of the United States Air Force I****1 credit hour(s)**

**Corequisite:** AFAS 1192 + concurrent enrollment in leadership laboratory required for cadet status.

Introduces students to the United States Air Force (USAF), providing an overview of the basic characteristics, missions and organization of the USAF.

**Note(s):**

- Meets once weekly
- Fall only

**AFAS 1121 - The Foundation of the United States Air Force II****1 credit hour(s)**

**Corequisite:** AFAS 1292 + concurrent enrollment in leadership laboratory required for cadet status.

Provides an introduction to the USAF, including an overview of basic characteristics, missions and organization of the USAF.

**Note(s):**

- Meets once weekly
- Spring only

**AFAS 1192 - Leadership Laboratory I****1 credit hour(s)**

Develops personal leadership and managerial abilities. Examines Air Force customs and courtesies and requires demonstration of related abilities as well as participation in drill and ceremonies. Emphasizes standards of discipline and conduct.

**Note(s):**

- Enrollment in the laboratory is required with AFAS 1120 course
- Graded CR/NC
- Fall only

**AFAS 1292 - Leadership Laboratory II****1 credit hour(s)**

Continues course of study begun in AFAS 1120 and AFAS 1192.

**Note(s):**

- Enrollment in the laboratory is required with AFAS 1121 course
- Graded CR/NC
- Spring only

**AFAS 2192 - Leadership Laboratory III**

**1 credit hour(s)**

Provides application of elements of personal leadership. Provides students an opportunity to demonstrate command and leadership abilities and knowledge of Air Force operating procedures.

**Note(s):**

- Enrollment in the laboratory is required with AFAS 2250
- Graded CR/NC
- Fall only

**AFAS 2229 - Field Training Fitness Prep****1 credit hour(s)**

**Pre- or corequisite:** AFAS 1192 or AFAS 1292.

Prepares cadets for leadership through various methods of military fitness training. Course instills Air Force physical fitness standards and provides training in all aspects of health, including physical fitness, nutritional awareness, stress management, and other aspects of health. Requires lab activities in the fitness center.

**AFAS 2250 - The Evolution of USAF Air and Space Power I****1 credit hour(s)**

**Corequisite:** AFAS 2192.

Concurrent enrollment in leadership laboratory required for cadet status. Introduces topics on Air Force heritage and leaders; introduces air and space power through examination of competencies and functions; and continues application of communication skills. Designed to instill an appreciation of the development and employment of air power and to motivate sophomore students to make transition for AFROTC cadet to AFROTC officer candidate. In addition, aspects of the AS 200 course begin to prepare students for field training exercises.

**Note(s):**

- Meets once weekly
- Fall only

**AFAS 2251 - The Evolution of USAF Air and Space Power II****1 credit hour(s)**

**Corequisite:** AFAS 2292 + concurrent enrollment in leadership laboratory required for cadet status. Introduces topics on Air Force heritage and leaders; introduction to air and space power through examination of competencies and functions; and continued application of communication skills. Course is designed to instill an appreciation of the development and employment of air power and to motivate sophomore students to make transition from AFROTC cadet to AFROTC officer candidate. In addition, aspects of the AS 200 course begin to prepare students for field training exercises.

**Note(s):**

- Meets once weekly
- Spring only

**AFAS 2292 - Leadership Laboratory II****1 credit hour(s)**

Continues course of study begun in AFAS 2250 and AFAS 2192.

**Note(s):**

- Enrollment in the laboratory is required with AFAS 2251
- Graded CR/NC
- Spring only

**African American Studies****AFST 1150 - Introduction to African American Studies****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Investigates present-day perspectives and historical and social conditions that have shaped and affected the lives of African Americans.

# American Sign Language

## ASL 1101 - Beginning American Sign Language

**4 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces the dynamic language of American Sign. Basic level vocabulary, with the aim of fostering a maximum interaction among students during class time. Students will be provided immediately with useful language skills to be employed in real situations and in effective task-based communications.

# Anthropology

## ANTH 1101 - Intro Anthropology

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

## ANTH 1110 - Language Culture and the Human Animal

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduces concepts and practices of linguistics and anthropology. Study of the systematic nature of language: phonology, morphology, syntax, semantics and pragmatics.

## ANTH 1120 - Archaeology: Discovering Our Past

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Surveys archaeological theory and methods including data from selected archaeological sites in various geographical areas and from different time periods.

## ANTH 1121/1192 - Archaeological Field Methods with Laboratory

**4 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Archaeological Field Methods with Laboratory surveys the scientific techniques and methods used by archaeologists to make inferences about the human past. Students will learn how and why archaeologists design research projects, and receive hands-on training in field techniques, artifact identification, and archaeological analysis. In addition, the course will cover ethical issues in archaeology as well as explain federal and state preservation laws and describe their impact on archaeological sites.

### Note(s):

- 45 theory hours
- 45 lab hours

## ANTH 1130 - Cultures of the World

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Surveys basic concepts of cultural anthropology as well as cultural characteristics illustrated by a variety of existing cultures in their native environments with societal examples in cross-cultural comparisons.

## ANTH 1150 - Evolutionary Anthropology

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduces field of biological anthropology and concepts of organic evolution. Emphasizes fossil history of primates, prehistory of man and human genetics within a paleoecological context, modern primate behavior and its relevance to human evolution.

## ANTH 2096-2996 - Special Topics

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**ANTH 2222 - Ancient Mesoamerica****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Traces Mesoamerican archaeology from the earliest inhabitants through the Aztec period. Emphasizes cultural processes and dynamics of cultural evolution.

**Note(s):**

- Typically offered Spring semester only.

**ANTH 2231 - North American Indians****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Presents comparative ethnology of North American Indian tribes on geographic, ecologic and cultural bases and explores life of North American Indians before European influence and the diversity of cultures existing on the North American continent.

**ANTH 2238 - Cultures Of the Southwest****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents basic concepts related to cultural patterns of the American Southwest from A.D. 1600 to the present and interactions of the ethnic groups that populate the Southwest.

**ANTH 2251 - Forensic Anthropology****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ANTH 1150.\*

Examines human skeletal anatomy in detail, with special emphasis on the characteristics relevant to forensic scientists. Introduces the processes and issues surrounding the discovery and identification of human skeletal remains (including human rights issues).

- \* Successful completion of ANTH 1150 before taking ANTH 2251 is encouraged.

**ANTH 2255 - Southwestern Archaeology****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents interpretations and dynamics of Southwestern archaeology from the time of the earliest inhabitants until European contact.

**Note(s):**

- Typically offered Spring semester only.

**ANTH 2265 - The Anthropology of Drugs****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Examines the nature and use of mind-altering drugs from a cross-cultural perspective, including study of the varieties and effects of such drugs around the world, socio-cultural contexts and functions of drugs, the social control of drugs and political economy of world trade in both licit and illicit drugs.

**ANTH 2290 - Anthropology Practicum****Variable credit hour(s)**

**Prerequisite:** Department approval.

Provides opportunities for students in anthropology practice by working with professionals conducting theoretical, laboratory, and/or field research in cultural, linguistic, physical/biological anthropology and archaeology.

## Arabic

### ARBC 1101 - Beginning Arabic I

**4 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces listening, speaking, writing, grammatical skills and cultural understanding for students with no previous exposure to Arabic.

### ARBC 1102 - Beginning Arabic II

**4 credit hour(s)**

**Prerequisite:** ARBC 1101 or department approval.

Continues course of study begun in Arabic I: listening, speaking, writing, grammatical skills and cultural understanding.

### ARBC 2096-2996 - Special Topics

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Architecture

### ARCH 1109 - Introduction to Architectural Studio

**3 credit hour(s)**

**Pre- or corequisite:** ARCH 1111 or ARCH 1121. Provides an introductory design studio format focused on the development of student-led projects coupled with critical evaluation of graphic skills and architectural intent.

**Note(s):**

- 30 theory hours
- 60 studio hours

### ARCH 1111 - Architectural Graphics I

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides an introduction to the tools and methods of representing architecture. Emphasis will be given to 2 and 3 dimensional representation to communicate architectural concepts. This class prepares students for continued architectural study and begins the process of assembling a portfolio.

**Note(s):**

- 30 theory hours
- 60 studio hours

### ARCH 1121 - Introduction to Architecture

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Lays a foundation for a general understanding of Architecture. Provides a fluency and vocabulary for fundamental understanding of educational processes, professional practice, and the art and science of architecture. Discusses architecture as a product of social, historical, technological, and creative forces.

## Architectural Drafting

### ARDR 1010 - CAD Analysis I



**2 credit hour(s)**

**Pre- or corequisite:** CAD 1001. Applies the usage of CAD to Architectural/Engineering drafting.

### **ARDR 1101 - Building Materials and Methods I**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Studies construction materials and methods with an emphasis on foundations, wood, and exterior and interior finishes for light frame construction. Students must provide their own construction hard hats.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **ARDR 1110 - Architectural Mathematics**

**3 credit hour(s)**

**Prerequisite:** MATH 0970 or appropriate placement score.

**Corequisite:** ARDR 1010.

Covers basic concepts of problem solving, mathematics and geometry with an emphasis on architectural and engineering applications and calculator use. Students must provide a full-function scientific calculator with a ten-digit display.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **ARDR 1115 - Residential Drafting**

**4 credit hour(s)**

**Pre- or corequisite:** ARDR 1010 + ARDR 1101 + IT 1010.

Introduces the fundamentals of architectural graphic representation as the foundation of all A/E drafting courses. Introduces computer-aided drafting to the production of architectural design development drawings for residential construction. Students must provide their own drafting kits.

**Note(s):**

- 15 theory hours
- 135 lab hours

### **ARDR 1201 - Building Materials and Methods II**

**3 credit hour(s)**

**Prerequisite:** ARDR 1010 + ARDR 1101.

**Pre- or corequisite:** ARDR 1115.

Continues ARDR 1101 studying construction materials and methods with an emphasis on masonry, roofing, glass and glazing, and exterior cladding systems.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **ARDR 1215 - Commercial Drafting (Bearing Wall)**

**4 credit hour(s)**

**Prerequisite:** ARDR 1115

**Pre- or corequisite:** ARDR 1201.

**Corequisite:** ARDR 1221.

Applies computer-aided drafting to the production of architectural design development drawings for commercial building with an emphasis on load bearing wall construction.

**Note(s):**

- 15 theory hours

- 135 lab hours

### **ARDR 1221 - Commercial Drafting Software Applications (Bearing Wall)**

**2 credit hour(s)**

**Prerequisite:** ARDR 1010 or department approval.

**Corequisite:** ARDR 1215 or department approval.

Applies current software applications to the production of A/E construction drawings in support of ARDR 1215 - Commercial Drafting (Bearing Wall).

**Note(s):**

- 15 theory hours
- 60 lab hours

### **ARDR 1301 - Building Materials and Methods III**

**3 credit hour(s)**

**Pre- or corequisite:** ARDR 1115.

Continues ARDR 1101 studying construction materials and methods with an emphasis on steel and concrete systems.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **ARDR 1315 - Commercial Drafting (Skeletal Frame)**

**4 credit hour(s)**

**Prerequisite:** ARDR 1115

**Pre- or corequisite:** ARDR 1301.

**Corequisite:** ARDR 1321.

Applies computer-aided drafting to the production of architectural design development drawings for commercial building with an emphasis on skeletal frame construction.

**Note(s):**

- 15 theory hours
- 135 lab hours

### **ARDR 1316 - Building Information Modeling Applications**

**3 credit hour(s)**

**Pre- or corequisite:** ARDR 1315 + ARDR 1321.

A supervised practical application of Building Information Modeling (BIM) commands and processes used to produce architectural design development drawings for commercial building.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **ARDR 1321 - Commercial Drafting Software Applications (Skeletal Frame)**

**2 credit hour(s)**

**Prerequisite:** ARDR 1010 or department approval.

**Corequisite:** ARDR 1315 or department approval.

Applies current software applications to the production of A/E construction drawings in support of ARDR 1315 - Commercial Drafting (Skeletal Frame).

**Note(s):**

- 15 theory hours
- 60 lab hours

### **ARDR 1480 - Architectural Design**

**2 credit hour(s)**

**Pre- or corequisite:** ARDR 1115.

Presents design principles, theories, methods and processes. Facilitates learning through student designed projects.

**Note(s):**

- 15 theory hours
- 60 lab hours

**ARDR 2096-2996 - Special Topics****1-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**ARDR 2105 - Structural Systems CAD****4 credit hour(s)**

**Prerequisite:** ARDR 1215 + ARDR 1315.

**Corequisite:** ARDR 2110 + ARDR 2120.

Develops standard structural engineering drawings in steel, concrete and/or wood structural systems.

**Note(s):**

- 15 theory hours
- 135 lab hours

**ARDR 2110 - Structural Systems Analysis****3 credit hour(s)**

**Corequisite:** ARDR 2105 + ARDR 2120.

Introduces structural design and graphics in wood, steel and concrete and elementary beam design problems.

**Note(s):**

- 30 theory hours
- 45 lab hours

**ARDR 2120 - Structural Systems Software Applications****2 credit hour(s)**

**Prerequisite:** ARDR 1221 + ARDR 1321.

**Corequisite:** ARDR 2105 + ARDR 2110.

Introduces computer software applications used for the preparation of commercial structural documents.

**Note(s):**

- 15 theory hours
- 60 lab hours

**ARDR 2180 - Site Analysis****2 credit hour(s)**

**Pre- or corequisite:** ARDR 1115.

Examines analytical factors of site design, such as orientation and view, sound and light intrusions, contours and grading, drainage and foliage. Introduces planning aspects of site size.

**Note(s):**

- 15 theory hours
- 60 lab hours

**ARDR 2205 - Mechanical/Electrical/Plumbing Systems CAD**

**4 credit hour(s)****Prerequisite:** ARDR 1215 + ARDR 1315.**Corequisite:** ARDR 2210 + ARDR 2220.

Reviews conventional drafting methods for mechanical and electrical systems, including overlaying electrical, heating, ventilation and plumbing systems on architectural views. Develop engineering drawings using engineering graphic skills.

**Note(s):**

- 15 theory hours
- 135 lab hours

**ARDR 2210 - Mechanical/Electrical Systems Analysis****3 credit hour(s)****Corequisite:** ARDR 2205.

Studies general theory and layout information and code requirements for non-residential systems. Includes lighting, plumbing and air conditioning.

**Note(s):**

- 30 theory hours
- 45 lab hours

**ARDR 2220 - Mechanical/Electrical/Plumbing Systems Software Applications****2 credit hour(s)****Prerequisite:** ARDR 1221 + ARDR 1321.**Corequisite:** ARDR 2205 + ARDR 2210.

Introduces computer software applications used for the preparation of commercial mechanical/electrical/plumbing (MEP) documents.

**Note(s):**

- 15 theory hours
- 60 lab hours

**ARDR 2295 - Cooperative Education****3 credit hour(s)****Prerequisite:** Department approval.

Provides opportunity for the student to work for one term on a cooperative basis in an appropriate, defined training program. The position is paid.

**ARDR 2297 - Independent Study****1-7 credit hour(s)****Prerequisite:** Department approval.

Defines a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical and drafting techniques. An oral presentation may be required.

**ARDR 2298 - Internship****1-4 credit hour(s)****Prerequisite:** Department approval.

In cooperation with local industry, the student works for one term in an appropriate, defined, training program. The position is not paid.

**ARDR 2316 - AutoCAD Applications****3 credit hour(s)****Prerequisite:** ARDR 1215 + ARDR 1221.

A supervised practical application of AutoCAD commands and processes used to produce architectural design development drawings for commercial building.

**Note(s):**

- 30 theory hours

- 45 lab hours

### **ARDR 2999 - ARDR Seminar II**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on assessment of exit competencies for program of study. Students prepare documents and practice skills necessary for a job search. This class should be taken in student's last term.

**Note(s):**

- 45 lab hours

## **Art History**

### **ARTH 1101 - Introduction to Art**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

### **ARTH 2096-2996 - Special Topics**

**3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ARTH 2200 - Women in Art**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Examines the creative achievements of women artists, exploring the social and cultural contexts related to women's artwork in relationship to the history and contemporary practices or art.

### **ARTH 2201 - History of Art I**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.

**Note(s):**

- This course typically offered Fall and Summer terms only

### **ARTH 2202 - History of Art II**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Surveys Italian and Northern Renaissance, Baroque, Rococo and 19th century Western European painting, sculpture and architecture.

**Note(s):**

- This course offered Spring and Summer terms only

### **ARTH 2250 - Modern Art**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Surveys major figures, movements, and stylistic developments in Western art from 1850 to the present.

### **ARTH 2251 - Art of the American Southwest**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents interrelationships of three Southwestern cultures emphasizing major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

**ARTH 2260 - Architectural History: Ancient through Modern****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Surveys the history of Western architecture from the pyramid to the post-modernist house; technological, stylistic and functional characteristics of monuments within their cultural contexts.

## Art Studio

**ARTS 1102 - Introduction to Studio Arts****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Covers techniques, materials and terminology in two- dimensional and three-dimensional image-and form-making, in hands-on studio format. Includes major studio concepts in design, drawing, painting, printmaking, ceramics, photography and sculpture.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1106 - Drawing I****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Provides direct experience in exploring basic drawing concepts. Introduces the fundamentals of drawing, including language of drawing, the use of drawing media (both wet and dry) and techniques associated with direct observational drawing skills.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1121 - Two-Dimensional Design****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Emphasizes visual awareness through direct experience with visual form-elements of line, shape, value, texture, color theory, space and volume, painting principles and visual vocabulary.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1122 - Three-Dimensional Design****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score + ARTS 1106.

Presents concepts, techniques, processes and vocabulary involved in working in the third dimension and emphasizes a variety of media and issues of space, form, mass and volume, line, texture, scale, proportion and the making of objects and spatial contexts.

**Note(s):**

- 30 theory hours
- 60 studio hours
- Typically offered Fall and Spring terms only.

**ARTS 1125 - Art Practices I**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

This is an interdisciplinary course, exploring the processes, ideas and diverse media of visual arts. The course addresses the thematic concepts that are central to the nature of art making today. Students will investigate issues of LIGHT, FRAME, and MARK while developing an understanding of the elements and principles of design.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1126 - Art Practices II****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

This is an interdisciplinary course, exploring the processes, ideas and diverse media of visual arts. The course addresses the thematic concepts that are central to the nature of art making today. Students will investigate issues of MOTIVE and CHANGE while developing concepts, techniques, and processes involved in working in the third dimension.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1130 - Digital Studio Fundamentals****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Examines and applies the elements of two-dimensional form (line, shape, value, texture, color and space) and the principles of two-dimensional design (harmony, variety, repetition, balance, rhythm, proportion, dominance, movement, and economy) through the development of digital projects. Students develop and submit personal and original design projects that are created through the use of web-based computer graphic tools and then submitted as a digital file.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1135 - Introduction to Digital Photography****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Intended to introduce students to basic concepts of digital photography *as a fine art medium*, and the computer as a darkroom. Course will cover digital camera operation including aperture, ISO, and shutter speed, image correction and enhancement via image manipulation software, and preparation of images via color management for internet and print distribution. Student must provide own digital camera with manual operation capability.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 1168 - Ceramics I****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

This is an introductory course in Ceramics with emphases on both hand-built construction and wheel-throwing techniques. Design aesthetics will focus on the creative development of clay objects examining cultural, historical, and personal modes of expression. Glazing and kiln firing processes will be introduced. Health and safety procedures will be emphasized.

**Note(s):**

- 90 Studio hours
- Offered at Westside Campus only

**ARTS 2096-2996 - Special Topics**

### **3 credit hour(s)**

Presents various topics.

#### **Note(s):**

- 30 theory hours
- 60 studio hours
- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ARTS 2204 - Life Drawing I**

#### **3 credit hour(s)**

**Prerequisite:** ARTS 1106

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Continues descriptive and perceptual drawing skills building of Drawing I, with an emphasis on human anatomical structures and historic concepts related to the drawing of the figure. Concludes with composition of the figure through the use and study of models.

#### **Note(s):**

- 30 theory hours
- 60 studio hours
- Typically offered Fall and Spring Semesters only.

### **ARTS 2205 - Drawing II**

#### **3 credit hour(s)**

**Prerequisite:** ARTS 1106.

Continues course of study initiated in ARTS 1106, offering further concentration on basic drawing concepts with greater emphasis on descriptive and perceptual drawing skills using wet and dry media and color. Explores aspects of experimental drawing, media and contemporary concerns, still life, landscape, portraiture and the figure in environmental contexts and in motion.

#### **Note(s):**

- 30 theory hours
- 60 studio hours

### **ARTS 2206 - Printmaking I**

#### **3 credit hour(s)**

**Prerequisite:** ARTS 1106 + (ARTS 1121 or ARTS 1125).

Introduces the fundamental methods of printmaking. Explores techniques and creative aspects of monotype, collagraph, relief and intaglio printmaking. Discusses lithography and screen printmaking.

#### **Note(s):**

- 30 theory hours
- 60 studio hours

### **ARTS 2207 - Painting I**

#### **3 credit hour(s)**

**Prerequisite:** ARTS 1106 + (ARTS 1121 or ARTS 1125).

Explores the tradition of paint as a medium for artistic expression.

Focuses on materials/media, tools, techniques, history and concepts of painting.

#### **Note(s):**

- 30 theory hours
- 60 studio hours

### **ARTS 2208 - Jewelry/Small Metals I**

#### **3 credit hour(s)**

**Prerequisite:** ARTS 1106.



Foundation techniques and creative processes including design, fabrication, casting, and surface treatments of jewelry and small metal objects.

**Note(s):**

- 30 theory hours
- 60 studio hours

### **ARTS 2210 - Art Career Concerns**

**3 credit hour(s)**

**Prerequisite:** Any ARTS 2000 level course.

Presents the practicalities of building a fine art career with emphasis on developing a professional portfolio. Covers professional practices of the studio artist including self-promotion, contacts, research tools for exhibition venues and other art related opportunities.

**Note(s):**

- Typically offered Spring term only.

### **ARTS 2211 - Portraiture**

**3 credit hour(s)**

**Prerequisite:** ARTS 1106 + IRW 0980 or appropriate placement score.

Develops skills in drawing and painting to depict the human likeness. Uses various artistic media to explore the anatomy of the human head and face in order to express individuality and mood. Examines the role of the portrait throughout history, together with the development of its skills.

**Note(s):**

- 30 theory hours
- 60 studio hours
- Typically offered Summer Term only.

### **ARTS 2212 - Advanced Portfolio Development**

**3 credit hour(s)**

**Prerequisite:** Any ARTS 2000 level course.

Advanced Portfolio Development is a studio course providing direct experience in the development of a connected series of artworks through the use of varied media. Emphasis will be placed on solving problems through thematic development of artworks, while building on fundamental skills learned in Drawing and/or Painting.

**Note(s):**

- Typically offered Fall term only.

### **ARTS 2214 - Life Drawing II**

**3 credit hour(s)**

**Prerequisite:** ARTS 1106 + IRW 0980 or appropriate placement score

**Pre- or corequisite:** ARTS 2204.

Extends the artistic study of the human figure through a greater variety of creative and expressive approaches, media and techniques.

**Note(s):**

- 30 theory hours
- 60 studio hours
- Typically offered every other year.

### **ARTS 2216 - Printmaking II**

**3 credit hour(s)**

**Prerequisite:** ARTS 2206 or department approval.

Continues exploration of print media begun in Printmaking I. Explores screen printing, multiple block relief printing, plate lithography and mixed media printmaking in an intermediate studio setting. Emphasizes developing a portfolio of prints focusing on individual expression, collaborative work and digital imagery. Includes lectures, visiting artists, demonstrations, practice and critique.

**Note(s):**

- 30 theory hours
- 60 studio hours
- Typically offered every other year.

**ARTS 2217 - Painting II****3 credit hour(s)**

**Prerequisite:** ARTS 2207 + IRW 0980 or appropriate placement score.

Continues course of study begun in ARTS 2207. Emphasizes more accomplished technical skills and more sophisticated conceptual understanding of content and form, with subjects drawn from imagination as well as observation. Focuses on the expressive potential of the medium.

**Note(s):**

- 30 theory hours
- 60 studio hours
- Typically offered Spring term only.

**ARTS 2218 - Jewelry/Small Metals II****3 credit hour(s)**

**Prerequisite:** ARTS 2208.

Fabrication skills are further developed and refined. Emphasis is on developing a deeper understanding of form/content as it relates to intimate scale. Focus on bench techniques, patination, surface treatment, casting, and wearable jewelry design.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 2228 - Jewelry Bench Techniques****3 credit hour(s)**

**Prerequisite:** ARTS 2208.

Advanced study in bench jewelry techniques and repair, stone setting, and creation of personal works of jewelry arts.

**Note(s):**

- 30 theory hours
- 60 studio hours

**ARTS 2268 - Ceramics II****3 credit hour(s)**

**Prerequisite:** ARTS 1168.

Study of ceramics materials and aesthetics for students seeking an AA Degree in Studio Art. This course will follow ARTS 1168 - Ceramics I.

**Note(s):**

- 30 theory hours
- 60 studio hours
- Offered at Westside Campus only

## Astronomy

**ASTR 1010 - Introduction to Solar System Astronomy****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** MATH 0980.\*

This course introduces solar system astronomy. It focuses on the history of astronomy, radiation, spectroscopy, telescopes, and the exploration of the solar system.

\*A working knowledge of basic algebra will be useful in this course.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **ASTR 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ASTR 1110 - Introduction to Stellar and Galactic Astronomy**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score.

**Recommended:** ASTR 1192.\*

This course introduces stellar and galactic astronomy. The life cycles of stars are investigated including how stars are formed, evolve over time, and eventually die. Additionally, the nature of the Milky Way galaxy, current concepts in cosmology, and the large-scale structure of the universe are studied.

\*It is recommended that students take ASTR 1192 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **ASTR 1192 - Introduction to Stellar and Galactic Astronomy Laboratory**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score

**Pre- or corequisite:** ASTR 1110.

This is an optional laboratory course for the investigation of the principles and phenomena discussed in ASTR 1110. This course includes laboratory experiments concerning the nature of light and laws of motion, as well as computer simulations of data-taking and analysis similar to current research in astronomy.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **ASTR 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **Automotive Technology**

### **AUTC 1110 - Introduction to Automotive Systems**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Introduces essential shop skills including safety, tool identification and use, under-car and under-hood servicing, repair information retrieval and proper use and care of equipment. Introduces the relationships between all vehicle systems and sub-systems. Prepares students to perform basic service operations required of entry level technicians. Introduces students to program and CNM.

**Note(s):**

- 30 theory hours
- 90 lab hours

### **AUTC 1120 - Brake Systems**

**3 credit hour(s)**

**Pre- or corequisite:** AUTC 1110 + AUTC 1140 or department approval.

Introduces principles of hydraulic brake operation and practical skills of diagnosis and repair of standard and anti-lock brakes. Includes lab activities on brake bleeding and adjustment, drum and rotor machining, master cylinder and brake caliper repair.

**Note(s):**

- 30 theory hours
- 75 lab hours

### **AUTC 1130 - Suspension and Alignment**

**3 credit hour(s)**

**Pre- or corequisite:** AUTC 1110 + AUTC 1140 or department approval.

Presents repair and service on a variety of modern vehicle suspension types. Includes strut replacement, wheel alignment and tire balancing, steering gear repair and rebuilding of common suspension components.

**Note(s):**

- 30 theory hours
- 75 lab hours

### **AUTC 1140 - Automotive Electrical**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Presents critical skills necessary for identifying and correcting problems found in automotive electrical/ electronic systems. Included DVOM and analog meter use, voltage drop testing, wiring schematic interpretation and electrical troubleshooting procedures.

**Note(s):**

- 30 theory hours
- 90 lab hours

### **AUTC 1210 - Manual Transmissions**

**3 credit hour(s)**

**Pre- or corequisite:** AUTC 1110 or AUTC 1140 or department approval.

Introduces fundamentals of design and operation in front and rear drive manual transmissions, differentials and drive line components. Activities include the disassembly, measurement, inspection and repair of various transmissions in the vehicle and on the bench.

**Note(s):**

- 30 theory hours
- 75 lab hours

### **AUTC 1220 - Engine Repair**

**4 credit hour(s)**

**Prerequisite:** AUTC 1110

**Pre- or corequisite:** AUTC 1140 or department approval.

Introduces internal combustion engine theory, engine overhaul procedures and precision tool measuring. Includes essential engine testing and identification of needed repairs along with removal/replacement of engines.

**Note(s):**

- 30 theory hours
- 90 lab hours

### **AUTC 1230 - Automatic Transmissions**

**4 credit hour(s)****Prerequisite:** AUTC 1110.**Pre- or corequisite:** AUTC 1140 or department approval.

Explores the fundamentals of design and operation of automatic transmissions and transaxles, servicing and proper repair procedures. Students perform pump, clutch repair, valve body overhaul and gear replacement on a variety of transmissions.

**Note(s):**

- 30 theory hours
- 90 lab hours

**AUTC 1240 - Automotive Electronics****3 credit hour(s)****Prerequisite:** AUTC 1110 + AUTC 1140 or department approval.

Builds on skills developed in AUTC 1140 - Automotive Electrical. Covers testing and diagnostic procedures in more complex automotive electronic systems. Includes lighting circuits, body computers and sensors, use of lab scopes and scan tools.

**Note(s):**

- 30 theory hours
- 75 lab hours

**AUTC 2096-2996 - Special Topics****1-7 credit hour(s)****Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**AUTC 2111 - Air Conditioning and Heating****2 credit hour(s)****Prerequisite:** AUTC 1240 or department approval.

Covers testing, evacuating and charging air conditioning systems while maintaining an awareness of potential environmental concerns caused by automotive refrigerants. Addresses cooling and heating diagnosis, climate control trouble-shooting and component repair.

**Note(s):**

- 15 theory hours
- 75 lab hours

**AUTC 2120 - Engine Performance I****3 credit hour(s)****Prerequisite:** AUTC 1240 or department approval.

Provides the information for basic test and repairs on computer controlled automotive drive trains. It includes engine condition diagnosis, the diagnostic process, service bulletins, scan tool data, fuel and fuel delivery. Engine performance I gives the learner mastery of the basic skills and knowledge contained in the ASE/NATEF engine performance program standards.

**Note(s):**

- 30 theory hours
- 75 lab hours

**AUTC 2130 - Engine Performance II****4 credit hour(s)****Pre- or corequisite:** AUTC 2120 or department approval.

Provides intermediate and advanced information to test and repair computer controlled automotive drive trains. It concentrates on ignition systems, computer sensor diagnosis, emission control devices and five gas exhaust analysis advanced diagnostic procedures, OBD II design and function an overview of hybrid systems. It provides further advanced mastery of ASE/NATEF engine performance program standards.

**Note(s):**

- 30 theory hours
- 90 lab hours

**AUTC 2197 - Independent Study****1-6 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

**AUTC 2198 - Automotive Internship****1 credit hour(s)**

**Pre- or corequisite:** AUTC 2130 or department approval.

Students will identify an automotive repair facility, apply for an internship position, and complete a forty hour (one work week) internship. Provides real world shop experience during the students last term in the certificate program.

**Note(s):**

- 45 lab hours

**AUTC 2250 - Transportation Alternative Fuels****2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970.

Presents the history, present practices, political issues, and future of alternative fuels for the transportation industry. Includes discussions and hands-on demonstrations of hybrid, CNG/propane, electric, hydrogen (fuel cell), and biodiesel technologies. May include guest speakers from local industries.

**Note(s):**

- 30 theory hours

**AUTC 2999 - Transportation Technology Capstone****1 credit hour(s)**

**Prerequisite:** Department approval.

Preparation of a professional portfolio that demonstrates student's mastery of technical and core competencies.

**Note(s):**

- Taken during student's last term
- 15 theory hours

**Aviation Maintenance****AVMT 1005 - Aviation Math****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, and provides an overview of basic mathematical operations and computations. Also provides an understanding of aircraft weight and balance and its integration into the maintenance function.

**AVMT 1010 - Aviation Science****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** AVMT 1005 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Provides basic concepts of motion, fluid dynamics, heat and sound, aerodynamics, aircraft structure and theory of flight. Provides basic understanding of drawings and drawing symbols and schematic diagrams. Performs aircraft ground operations and fuel servicing techniques.

## **AVMT 1015 - Materials & Processes**

**3 credit hour(s)**

**Pre- or corequisite:** AVMT 1005 + AVMT 1010 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, materials and processes, fluid lines and fittings, precision measuring equipment, mechanics tools, aircraft hardware, aircraft cleaning and corrosion control. Covers the process and procedures required to inspect, repair, and fabricate rigid and flexible fluid lines. Covers aircraft hardware identification and the use of precision measuring tools. Covers identification of various forms of corrosion and cleaning techniques.

## **AVMT 1020 - Maintenance Forms & Publications**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1025.

Provides an overview of FAA regulations, publications, forms, and records and how they relate to aviation maintenance activities. Provides an opportunity to become familiar with manufacturer's maintenance publications and their use in performing maintenance and repair. Defines the qualifications, privileges, and limitations of a maintenance technician.

## **AVMT 1025 - Basic Electricity**

**5 credit hour(s)**

**Pre- or corequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020.

The student is introduced to aircraft terminology, nomenclature, basic electrical principles of direct and alternating currents, aircraft batteries, precision measuring equipment, and interpretation of electrical circuit diagrams as they pertain to every day shop problems.

## **AVMT 1105 - Airframe Electrical**

**3 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, basic airframe electrical components, principles of direct and alternating current generating systems, precision measuring equipment, and interpretation of electrical circuit diagrams as they pertain to every day shop problems.

## **AVMT 1110 - A/C Materials & Finishes**

**4 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, wood structures, fabric coverings, aircraft finishes, aircraft composite materials, structures, and construction techniques. This course provides general knowledge in this subject area as it pertains to every day shop problems.

## **AVMT 1115 - A/C Sheet Metal**

**5 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, aircraft sheet metal structure construction and repair methods as they pertain to every day shop problems.

## **AVMT 1120 - A/C Assembly & Rigging**

**4 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, basic welding process of aircraft structures, inspection methods, and assembly and rigging procedures as they pertain to every day shop problems.

## **AVMT 1125 - A/C Landing Gear Systems**

**3 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, landing gear systems, special servicing equipment, and the basic operating principles of hydraulic and pneumatic systems as they pertain to every day shop problems.

## **AVMT 1130 - A/C Fuel Systems**

**2 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, and aircraft fuel systems as they pertain to every day shop problems.

## **AVMT 1135 - A/C Environmental Systems**

**3 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, airframe environmental systems such as cabin atmosphere, ice and rain control, and fire protection and maintenance requirements for these systems as they pertain to every day shop problems.

## **AVMT 1140 - A/C Instruments**

**3 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, aircraft instruments, navigation/communication systems, and position and warning systems and the technical data to maintain these system as they pertain to every day shop problems.

## **AVMT 1145 - Airframe Inspection**

**4 credit hour(s)**

**Pre- or corequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025 + AVMT 1130 + AVMT 1135 + AVMT 1140.

The student is introduced to aircraft terminology, nomenclature, and airframe inspection methods as they pertain to every day shop problems.

## **AVMT 1305 - Powerplant Electrical**

**2 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

The student is introduced to aircraft terminology, nomenclature, basic powerplant electrical components, principles of direct and alternating current generating systems, precision measuring equipment, and interpretation of electrical circuit diagrams as they pertain to every day shop problems.

## **AVMT 1310 - Reciprocating Eng. 1**

**3 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, and provides an overview of basic reciprocating engine design and operation. Presents information on inspection, checking, servicing, and repair of reciprocating engines and engine installations.

## **AVMT 1315 - Reciprocating Eng. 2**

**4 credit hour(s)**

**Pre- or corequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025 + AVMT 1310.

This course will expand upon issues with reciprocating engines.

## **AVMT 1320 - Turbine Engines**

**4 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, and provides an overview of basic turbine engine design and operation. Presents information on inspection, checking, servicing, and repair of turbine engines and engine installations.

## **AVMT 1325 - Powerplant Systems 1**

**3 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, and provides an overview of powerplant lubrication, induction and airflow, cooling, and exhaust and reverser systems. Presents information on inspection, checking, servicing, troubleshooting, and repair of these



powerplant systems.

### **AVMT 1330 - Propellers**

**2 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, and provides an overview of propeller systems for reciprocating and turbine engines. Presents information on inspection, checking, servicing, troubleshooting, and repair of propeller systems and installations.

### **AVMT 1335 - Powerplant Fuel Systems**

**5 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025.

Introduction to aircraft terminology, nomenclature, and provides an overview of powerplant fuel metering and delivery systems for reciprocating and turbine engines. Presents information on inspection, checking, servicing, troubleshooting, and repair of powerplant fuel metering and delivery systems and installations.

### **AVMT 1340 - Powerplant Systems 2**

**4 credit hour(s)**

**Prerequisite:** AVMT 1005 + AVMT 1010 + AVMT 1015 + AVMT 1020 + AVMT 1025 + AVMT 1325.

Introduction to aircraft terminology, nomenclature, and provides an overview of powerplant instruments, fire protection, and ignition and starting systems for reciprocating and turbine engines. Presents information on inspection, checking, servicing, troubleshooting, and repair of powerplant instruments, fire protection, and ignition and starting systems and installations.

### **AVMT 1345 - Engine Inspection**

**4 credit hour(s)**

**Pre- or corequisite:** AVMT 1305 + AVMT 1310 + AVMT 1315 + AVMT 1320 + AVMT 1325 + AVMT 1330 + AVMT 1335 + AVMT 1340.

Introduction to aircraft terminology, nomenclature, and provides an overview of engine inspection processes and procedures. Presents information on engine conformity and airworthiness checks.

## **Basic Patient Care Skills**

### **BPCS 1092 - Basic Patient Care Skills**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Introduces students to the principles of providing basic patient care including communication, patient safety and infection control with practice in gloving, gowning and sterile procedures. Provides instruction and supervised practice of vital signs, transfer, moving and positioning techniques, protection of airway, Oxygen delivery devices, basic ECG monitoring, drains, tubes, IVs, pumps and other considerations for the hospitalized patient.

**Note(s):**

- 45 Lab hours

## **Biology**

### **BIO 1010 - Biology for Non-Majors**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** BIO 1092.\*

Emphasizes biological principles and current topics for non-biologists or liberal arts students: cellular and molecular biology, microbiology, human genetics, ecology, complexity theory and animal behavior.

\* It is recommended that students take BIO 1092 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **BIO 1092 - Biology for Non-Majors Lab**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** BIO 1010.

Provides in optional laboratory setting lab the use of microscopes, culturing bacteria, chemical analysis of biomolecules, plant and animal behavior.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **BIO 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **BIO 1110 - Environmental Science**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** BIO 1192.\*

Presents an academic study of the environment, including basic ecology, a comparison of scientific approaches and world views with respect to ecology and the environment, relationship of humans to the environment and solutions to local, regional and global environmental problems.

\* It is recommended that students take BIO 1192 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **BIO 1192 - Environmental Science Laboratory**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** BIO 1110.

Investigates in optional laboratory setting the principles discussed in BIO 1110; emphasizes analysis of water, soil and air pollutants. Moderately strenuous field trips to special interest sites may be scheduled outside regular laboratory hours.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **BIO 1310 - Human Anatomy and Physiology for Non-Majors**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** BIO 1392.\*

Examines the structure (anatomy) and function (physiology) of the human body. Investigates molecular, cellular, tissue and organ levels and study of organ systems. Course available online.

\* It is recommended that students take BIO 1392 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** BIO 1310.

Introduces lab exercises, which complement concepts presented in BIO 1310, including histological study, biochemical processes, mammal organ dissections and use of models to illustrate anatomical arrangement. Course available online.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

**BIO 1410 - Biology for Health Sciences****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** BIO 1492 \* + CHEM 1410 \*\*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

\* It is recommended that students take BIO 1492 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.\*\* Additionally, it is recommended that students take CHEM 1410 prior to BIO 1410 since a working knowledge of basic chemistry is useful in this course.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

**BIO 1492 - Biology for Health Sciences Laboratory****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** BIO 1410.

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

**BIO 1510 - Molecular and Cell Biology****3 credit hour(s)**

**Pre- or corequisite:** CHEM 1710 + CHEM 1792.

**Corequisite:** BIO 1592.

Introduces a number of related cell biology topics. The scientific method, the role of water in cell biology, diversity of organic molecules and macromolecules, introduction to metabolism, cellular respiration and photosynthesis, cell structure and functions, cell communication and the cell cycle.

**Note(s):**

- 45 theory hours

**BIO 1592 - Molecular and Cell Biology Laboratory****1 credit hour(s)**

**Corequisite:** BIO 1510.

Laboratory exercises and recitation to complement concepts presented in BIO 1510.

**Note(s):**

- 45 lab hours

**BIO 1610 - Genetics****3 credit hour(s)**

**Prerequisite:** BIO 1510 + BIO 1592.

**Pre- or corequisite:** CHEM 1810 + CHEM 1892.

**Corequisite:** BIO 1692.

Builds upon concepts presented in BIO 1510/1592 to explore a wide range of materials related to genetics. Mitosis, meiosis, Mendelian genetics, chromosomal inheritance, molecular inheritance, replication, transcription and translation, genetics of viruses, bacteria and eukaryotes, genomics, developmental genetics and human genetics.

**Note(s):**

- 45 theory hours

**BIO 1692 - Genetics Laboratory**

**1 credit hour(s)**

**Corequisite:** BIO 1610.

Laboratory exercises and recitation to complement concepts presented in BIO 1610 .

**Note(s):**

- 45 lab hours

**BIO 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**BIO 2110 - Microbiology**

**3 credit hour(s)**

**Prerequisite:** (BIO 1410 + BIO 1492) or [(BIO 1510 + BIO 1592) + (BIO 1610 + BIO 1692)] + (CHEM 1410 or CHEM 1710) or appropriate placement score.

**Recommended:** BIO 2192.\*

Introduces concepts of microbiology, host-parasite relationships, infection and immunity.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**BIO 2192 - Microbiology Laboratory**

**1 credit hour(s)**

**Prerequisite:** CHEM 1492 or CHEM 1792 or appropriate placement score.

**Pre- or corequisite:** BIO 2110.

Investigates a variety of techniques designed to facilitate the growth, identification and control of microorganisms.

**Note(s):**

- 45 lab hours

**BIO 2210 - Human Anatomy and Physiology I**

**3 credit hour(s)**

**Prerequisite:** (BIO 1410 + BIO 1492) or [(BIO 1510 + BIO 1592) + (BIO 1610 + BIO 1692)] + (CHEM 1410 or CHEM 1710) or appropriate placement score.

**Recommended:** BIO 2292.\*

Human Anatomy and Physiology I is an integrated study of human structure and function that covers the integumentary, skeletal, muscular, and nervous systems.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**BIO 2292 - Human Anatomy and Physiology I Lab**

**1 credit hour(s)**

**Prerequisite:** CHEM 1492 or CHEM 1792 or appropriate placement score.

**Pre- or corequisite:** BIO 2210.

Introduces lab exercises in anatomy and physiology, which complement topics covered in BIO 2210 - Human Anatomy and Physiology I, including specimen dissection and study of cadaver images and models.

**Note(s):**

- 45 lab hours

## **BIO 2310 - Human Anatomy and Physiology II**

**3 credit hour(s)**

**Prerequisite:** BIO 2210.

**Recommended:** BIO 2392.\*

Continues course of study begun in BIO 2210, covering structure and function of the cardiovascular, respiratory, digestive, urinary, reproductive and endocrine systems.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

## **BIO 2392 - Human Anatomy and Physiology II Lab**

**1 credit hour(s)**

**Prerequisite:** BIO 2292.

**Pre- or corequisite:** BIO 2310.

Provides lab exercises in anatomy and physiology, which complement topics covered in BIO 2310, including specimen dissection and study of cadaver images and models.

**Note(s):**

- 45 lab hours

## **BIO 2410 - Ecology & Evolution**

**3 credit hour(s)**

**Prerequisite:** (BIO 1510 + BIO 1592) + (BIO 1610 + BIO 1692).

**Corequisite:** BIO 2492.

Presents various topics associated with the principles of ecology and evolutionary biology. Darwinian principles, origin theory, the fossil record and patterns of diversification of ancient life, evolution of populations, speciation, phylogenetics, basics of ecology and study of the biosphere, behavioral ecology, population ecology, community ecology, ecosystem ecology and conservation biology.

**Note(s):**

- 45 theory hours

## **BIO 2492 - Ecology & Evolution Laboratory**

**1 credit hour(s)**

**Corequisite:** BIO 2410.

Laboratory exercises and recitation to complement concepts presented in BIO 2410.

**Note(s):**

- 45 lab hours

## **BIO 2510 - Plant & Animal Form and Function**

**3 credit hour(s)**

**Prerequisite:** BIO 2410 + BIO 2492.

**Corequisite:** BIO 2592.

Focuses on comparative botany and zoology. Topics covered are plant structure and growth, transport, nutrition, reproduction and development in plants. Introduction to animal form and function, animal nutrition, circulation and gas exchange, immune system function and evolution, control of the internal environment, chemical signaling, reproduction and development, nervous systems, sensory and motor mechanisms.

**Note(s):**

- 45 theory hours

## **BIO 2592 - Plant & Animal Form and Function Laboratory**

**1 credit hour(s)**

**Corequisite:** BIO 2510.

Laboratory exercises and recitation to complement concepts presented in BIO 2510.

**Note(s):**

- 45 lab hours

## **BIO 2710 - Pathophysiology I**

**3 credit hour(s)**

**Pre- or corequisite:** BIO 2110 + BIO 2192 + BIO 2210.

**Recommended:** BIO 2292.\*

Focuses on building a basic understanding of pathophysiology for health science students. Presents diseases of the circulatory, nervous, musculoskeletal and dermal systems.

\* It is highly recommended that students take BIO 2292 prior to taking BIO 2710 as the Human Anatomy and Physiology Lab experience is useful in mastering the concepts studied in BIO 2710.

## **BIO 2711 - Pathophysiology II**

**3 credit hour(s)**

**Prerequisite:** BIO 2710.

**Pre- or corequisite:** BIO 2310.

**Recommended:** BIO 2292 and BIO 2392.\*

Continues course of study begun in BIO 2710, covering pathology of cardiovascular, pulmonary, gastrointestinal, urinary and endocrine systems.

\* It is highly recommended that students take BIO 2292 and BIO 2392 prior to taking BIO 2711 as the Human Anatomy and Physiology Lab experience is useful in mastering the concepts studied in BIO 2711.

# **Biotechnology**

## **BIOT 1020 - Biotechnology I**

**4 credit hour(s)**

**Prerequisite:** BIO 1510 + BIO 1592 + CHEM 1710 + CHEM 1792.

**Pre- or corequisite:** BIO 1610 + BIO 1692 + CHEM 1810 + CHEM 1892.

Provides theory and experience in laboratory safety and measurement, solution making, bacterial transformations and cloning, recombinant DNA, gel electrophoresis, tissue culture and basic bioinformatics skills. Current issues and topics related to biotechnology will be explored.

**Note(s):**

- 30 theory hours
- 90 lab hours

## **BIOT 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **BIOT 2110 - Biotechnology II**

**4 credit hour(s)**

**Prerequisite:** BIOT 1020.

Provides theory and experience with protocols used to characterize and manipulate nucleic acids. Builds on techniques learned in Biotechnology I. Techniques include DNA isolation and quantification, PCR, qPCR, gel electrophoresis, recombinant DNA technology, cloning, DNA sequencing, site-directed mutagenesis, tissue culture and basic bioinformatics skills. Current issues and topics related to biotechnology will be explored.

**Note(s):**

- 30 theory hours
- 90 lab hours

## **BIOT 2210 - Biotechnology III**

**3 credit hour(s)**

**Prerequisite:** BIOT 2110.

Provides theory and experience with protocols used to characterize and manipulate nucleic acids and proteins. Builds on techniques learned in Biotechnology II. Techniques include RNA and protein isolation and quantification, RT-PCR, RNA interference, mammalian transfections, polyacrylamide gel electrophoresis, 2-D gel analysis, Western blotting, ELISAs and basic bioinformatics and proteomics skills. Current issues and topics related to biotechnology will be explored.

**Note(s):**

- 15 theory hours
- 90 lab hours

## **Brewing**

### **BEV 1100 - Beer Production and Styles**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces origins, basic production methods, and identification of major beer styles. Development of sensory evaluation skills for visual, aroma, taste, and tactile components of both typical beers and faults.

**Note(s):**

- To enroll in this course, students must be at least 21 years of age or older at the start of the term.

### **BEV 1110 - Brewing Equipment and Maintenance**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Presents students with correct operation and maintenance of all brewing and packaging equipment, associated machinery, and safety gear.

**Note(s):**

- 30 theory hours
- 90 lab hours
- To enroll in this course, students must be at least 21 years of age or older at the start of the term.

### **BEV 1130 - Beer Production I**

**3 credit hour(s)**

**Pre- or corequisite:** BEV 1110.

Provides theory and hands-on application of raw materials selection and handling, malting, and wort production. Quality assurance and safety procedures are stressed at every step. New Mexico Alcohol Server Certification is offered.

**Note(s):**

- 15 theory hours
- 90 lab hours
- To enroll in this course, students must be at least 21 years of age or older at the start of the term.

### **BEV 1140 - Beer Production II**

**3 credit hour(s)**

**Pre- or corequisite:** BEV 1130.

Provides theory and hands-on application of cellar operations, packaging, storage, stock rotation. Quality assurance and safety procedures are stressed at every step. Introduces government regulations and tax issues pertaining to the brewing industry.

**Note(s):**

- 15 theory hours
- 90 lab hours
- To enroll in this course, students must be at least 21 years of age or older at the start of the term.

## **BEV 1160 - Beverage Service I**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1100 or HT 1101 or BEV 1100.

Introduces identification, production, and service of beverages common to the foodservice industry, including beer, wine, distilled beverages and cocktails, coffee, tea, and non-alcoholic beverages. Development of sensory evaluation skills for visual, aroma, taste, and tactile components. Introduces basic food pairing techniques.

**Note(s):**

- Beginning Fall 2016, BEV 1160 and HT 1111 will replace HT 1164 in program requirements. HT 1164 will no longer be offered after Summer, 2016.

## **BEV 1192 - Draught Systems**

**1 credit hour(s)**

**Pre- or corequisite:** BEV 1100.

Overview of draught systems, including safety, design, maintenance, operation, and troubleshooting.

**Note(s):**

- 45 lab hours
- To enroll in this course, students must be at least 21 years of age or older at the start of the term.

## **BEV 2160 - Beverage Service II**

**3 credit hour(s)**

**Prerequisite:** BEV 1160.

Focuses on advanced service and food pairing techniques for beer and wine. Marketing, managing, and integrating a beverage program in a variety of foodservice and hospitality operations.

**Note(s):**

- To enroll in this course, students must be at least 21 years of age or older at the start of the term.

# **Business Administration**

## **BA 1096-1996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **BA 1101 - Introduction to Business**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** IT 1010.

BA 1101 is a survey course. Topics include: basic business principles, business research, economic systems, international trade, business ethics, forms of business ownership, entrepreneurship, human resources, marketing, personal money management, investing and the financial markets. Emphasis is on relating topics to a market economy.

## **BA 1105 - Introduction to Entrepreneurship**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Introduces students to the concept of entrepreneurship and to the fundamentals of the business process. Students study basic topics such as idea generation and evaluation, basic marketing concepts, financial management, small business management, small business organization and financing.



## **BA 1115 - Web Business**

**3 credit hour(s)**

**Recommended:** BA 1015 or IT 1010.\*

Focuses on how an online business is set up, organized and operated. This is the foundation course for students interested in e-commerce. Basic concepts for operating an online business are introduced. Topics include electronic payments, Web business models (auction, broker, advertising, catalog, etc.) security, privacy, order processing and store operations.

\* Students need basic computer skills to be successful in this course.

## **BA 1121 - Business English**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

## **BA 1131 - Business Professionalism**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Focuses on developing professional behavior appropriate for the business environment. Topics include: Life Management, goal setting, workplace etiquette, job search skills, interviewing, teamwork and team building, motivation, leadership, business communication and workplace interaction.

## **BA 1150 - Introduction to Quality Management**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Presents concepts and theories of quality improvement. Focus is on helping students understand the cost of poor quality, why quality matters, how work methods and business processes impact employee job performance and anticipate obstacles to quality improvement, practical application of quality and application of quality principles.

## **BA 1151 - Fundamentals of Continuous Quality Improvement (CQI)**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Focuses on data for clarifying customer expectations for service and product quality; choosing quality standards for business performance; selecting measures and indicators of quality and customer satisfaction; assessing effective ways to evaluate and improve both quality and customer satisfaction, improving quality based on customer feedback; and planning for practical application.

## **BA 1152 - Quality Tools**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Focuses on recognizing and understanding applications for quality tools, developing skill and confidence in using quality tools, selecting and integrating quality tools to improve a specific work process, and planning for practical application of quality tools at work and in personal life.

## **BA 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for a structured educational (paid) work experience related to a student's academic goals. Cooperative Education is a partnership between the student and both the educational institution and the employer, with specific responsibilities for each party. Requires a minimum of 135 hours and must involve a new learning experience.

## **BA 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **BA 2097 - Independent Study**

**1-8 credit hour(s)**

**Prerequisite:** Department approval.

Student works with the instructor on specific topics directly related to the course or program of study. The meeting time is arranged between the student and the instructor.

### **BA 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for a structured (unpaid) work experience related to a student's academic goals. The internship is a partnership between the student and both the educational institution and the employer, with specific responsibilities for each party. Requires a minimum of 135 hours and must involve a new learning experience.

### **BA 2100 - Basics of Global Business**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** BA 1101.\*

Introduces international business and the globalization of the economy. The students are introduced to objectives, opportunities and challenges facing those who engage in business in foreign countries. Foreign organizations, cultural dynamics, trade channels, legal environment and political considerations are discussed.

\*Students will benefit from a foundational knowledge of business principles and practices.

### **BA 2103 - Entrepreneurship and Business Plan Development**

**6 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Focuses on new business design and skill development. Students complete a market research and feasibility assessment to develop a complete business plan. Emphasis is on business research and writing the vision and mission statement, company overview, product/service strategy, marketing plan, financial plan and executive summary.

### **BA 2133 - Principles of Management**

**3 credit hour(s)**

**Prerequisite:** BA 1101.

Introduces the basic theory of organizations and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

**Note(s):**

- BA 2133 formerly offered as BA 1133.

### **BA 2153 - Team Building for Quality**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Focuses on differentiating between team work and group work, specific situations when team work is needed and not needed, designing and launching a successful team, recognizing and appreciating divergent styles of team players, learning and improving skills and tools that contribute to successful team work, understanding and managing phases in team development, recognizing and managing obstacles to team success.

### **BA 2154 - Re-Engineering for Quality**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Focuses on competitive market forces that are compelling organizations to radically redesign their business, recognizing primary obstacles to reengineering and innovation, thinking creatively about critical success factors in their personal and professional lives, and

developing a personal and professional strategy for growth and success in a rapidly changing business environment.

### **BA 2155 - Quality Leadership**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Presents the urgent need for leadership in today's businesses, communities and families; focuses on understanding the differences between leadership and management; exploring strategies, building confidence and developing skills for effective leadership; identifying opportunities for leadership from within or from bottom of an organization; and planning to increase personal influence and leadership.

### **BA 2156 - Fundamentals of Lean Management**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Introduces basic principles and tools of lean manufacturing and service delivery and focuses on practical and profitable management. Methods to maximize operational effectiveness accelerate cycle time, reduce inventory and increase reliability and responsiveness to customers are examined.

### **BA 2196 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. *See Schedule of Classes.*

### **BA 2220 - Web Marketing**

**3 credit hour(s)**

**Recommended:** BA 1115.\*

Focuses on how to plan, create and market a website. Internet marketing topics such as registering with search engines, increasing traffic, segmenting and targeting markets, establishing an online presence, developing a marketing plan and reshaping business for the Web market are covered.

\* Students will benefit from a foundational knowledge of web business.

### **BA 2222 - Principles of Marketing**

**3 credit hour(s)**

**Prerequisite:** (BA 1101 or HT 1101 or CULN 1100) + (ENG 1101 or BA 1121).

Introduces the methods, policies and organization involved in the exchange of goods and services between producers and consumers. Topics include the social, economic and legal environments in which marketing operates, consumer behavior, market research, market segmentation and target marketing, strategic marketing, product planning, pricing, promotion and distribution.

### **BA 2226 - Sales**

**3 credit hour(s)**

**Prerequisite:** (BA 2222 or HT 2141) + (ENG 1101 or BA 1121).

Covers the principles and techniques of personal selling as a form of persuasive communication basic to business and other types of interpersonal relationships. Sales principles demonstrating selling skills and promoting goods and services are emphasized. Each student presents sales presentations.

### **BA 2228 - Promotion Strategies**

**3 credit hour(s)**

**Prerequisite:** BA 1101 or BA 1105.

Presents an overview of the advertising and promotion industry as a creative process and a business. The course provides the student with a broad knowledge of promotions as a career. Students will evaluate media strategy, and will plan and analyze an integrated marketing communication (IMC) campaign. The advertising code of ethics will be discussed and presented.

### **BA 2230 - Customer Relations**

**3 credit hour(s)**

**Pre- or corequisite:** BA 1131 or ESOL 1030.

Focuses on the relationship of self to customers, problem solving and communicating with customers, understanding customers, anticipating customers' needs and offering assistance.

### **BA 2234 - Organizational Behavior**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or BA 1121.

**Pre- or corequisite:** BA 2133 or HT 1101.

Covers the fundamentals of human behavior within business organizations, organizational relationships and communication processes that affect motivation and human behavior.

### **BA 2236 - Retail Management**

**3 credit hour(s)**

**Prerequisite:** BA 1101.

Focuses on the changing demographics of retail management, the growth of new retail formats and the use of information technology to enable quick response to market dynamics through customer service, vendor-retailer partnering and employee diversity.

### **BA 2238 - Human Resource Management**

**3 credit hour(s)**

**Prerequisite:** (BA 1101 or BA 2133) + (BA 1121 or ENG 1101).

Focuses on the role of human resource management in relation to organizational requirements. Topics include human resource management, employee staffing, compensation and benefits, labor relations, Equal Employment Opportunity, affirmative action, training and development and other related topics.

### **BA 2240 - Business Law**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Provides an overview of the legal system and an introduction to common legal principles. The course focuses on topics particularly relevant to business, including the legal system, torts, contracts, product liability and agency. The course will assist students in identifying and understanding the sources of liability and strategies to minimize legal risk.

### **BA 2270 - Real Estate Law**

**3 credit hour(s)**

Focuses on the fiduciary relationship between real estate agent and client, ownership rights, law of agency and law of contracts. This course has been certified to earn 30 hours of credit toward the New Mexico Real Estate Broker's License Exam.

### **BA 2271 - Real Estate Principles and Practice**

**3 credit hour(s)**

**Recommended:** BA 2270.

Covers the real estate market, real property ownership and interest, deeds and descriptions, property transfer, contracts, finance and appraising. Course has been certified to earn 30 hours of credit toward the New Mexico Real Estate Broker's License Exam.

### **BA 2274 - Real Estate Investment**

**3 credit hour(s)**

**Recommended:** BA 2270 + BA 2271.\*

Introduces the principles for investment decisions, assessment of property potential and an awareness of the marketplace and the needs of the public.

\* Students will benefit from a foundational knowledge of real estate law, principles and practice.

### **BA 2275 - Broker Basics**

**3 credit hour(s)**

**Recommended:** BA 2270 + BA 2271.

Covers the establishment of a real estate office agency relationships and law, signage, brokers' duties, trade names, listing and purchasing agreements, common forms, property management and trusteeship/ trust accounts. Course has been certified to earn 30 hours of credit toward the New Mexico Real Estate Brokers License Exam.

\*Students will benefit from a foundational knowledge in real estate law, principles and practice

### **BA 2278 - Property Management**

#### **3 credit hour(s)**

Explores residential and commercial property management, marketing of services, market analysis, record keeping, related laws, legal documents, property maintenance, employee relations, insurance, security and administration.

### **BA 2281 - Ethics in Business**

#### **3 credit hour(s)**

**Pre- or corequisite:** BA 1121 or ENG 1101 or ESOL 1020.

**Recommended:** BA 1101.\*

Focuses on the identification, analysis and practical resolution of ethical issues that managers and business leaders face in the workplace with particular emphasis on the role of business managers and leaders in establishing and maintaining the ethical culture of a business. Case studies and real-life problems are used to study the competing values and interests involved in ethical situations, and to develop a framework and strategy to make practical decisions.

\*Students will benefit from a foundational knowledge of business principles and practices.

### **BA 2282 - Leadership and Group Dynamics**

#### **3 credit hour(s)**

**Prerequisite:** BA 1121 or ENG 1101.

**Pre- or corequisite:** BA 1131.

Focuses on the development of leadership skills. Course is designed to provide basic steps in leadership and group dynamics to help individuals develop a personal philosophy of leadership of the moral and ethical responsibility of leadership.

### **BA 2999 - Capstone Course**

#### **1 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on assessment of student learning outcomes for program of study.

#### **Note(s):**

- Taken in student's last term

## **Carpentry**

### **CARP 1005 - Carpentry Blueprint Reading I**

#### **4 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Includes lumber sizing, scaling, centering and triangle theory, interpretation of elevations drawings, floor plans, symbols, notations, dimensions and structural information.

### **CARP 1030 - Carpentry Theory I**

#### **3 credit hour(s)**

**Pre- or corequisite:** CARP 1005.

Introduces students to the construction trade and explains floor framing systems, wall, ceiling, stair, and roof framing and the installation of exterior doors and windows.

### **CARP 1305 - Furniture Making**

#### **3 credit hour(s)**

**Pre- or corequisite:** CARP 1320.

Includes fundamental design and construction of simple furniture including safety and use of hand and power tools. Students will design and construct a furniture project.

**Note(s):**

- 15 theory hours
- 90 lab hours

**CARP 1315 - Cabinetmaking**

**3 credit hour(s)**

**Pre- or corequisite:** CARP 1320.

Fundamentals of cabinet construction. Emphasis is on safety and use of tools. European construction is emphasized.

**Note(s):**

- 15 theory hours
- 90 lab hours

**CARP 1320 - Carpentry Fundamentals**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Includes safety and use of hand and power tools. Students design a project, generate an estimate and bill of materials, and build and complete the project.

**Note(s):**

- 30 theory hours
- 45 lab hours

**CARP 1325 - Construction Trades Blueprint Reading**

**3 credit hour(s)**

Focuses on reading and interpreting blueprints with emphasis on terminology, symbols, notations, scaling, dimensioning and drawing techniques. Reviews construction methods, materials, calculations for material take-off and estimates.

**CARP 1392 - Construction Lab A**

**5 credit hour(s)**

**Pre- or corequisite:** CARP 1005 + CARP 1030.

Provides beginning carpentry students practical hands on learning by taking advantage of building opportunities on an off campus.

**Note(s):**

- 225 lab hours

**CARP 1492 - Construction Lab B**

**5 credit hour(s)**

**Prerequisite:** CARP 1392.

Provides advanced carpentry students practical hands on learning by taking advantage of building opportunities on an off campus.

**Note(s):**

- 225 lab hours

**CARP 1692 - Advanced Furniture Making**

**2 credit hour(s)**

**Prerequisite:** (IRW 0970 + MATH 0970 or appropriate placement score) + CARP 1320.

Covers advanced design and construction of simple furniture including safety and use of hand and power tools. Includes designing and constructing a furniture project.

**Note(s):**

- 90 lab hours

**CARP 1892 - Spanish Colonial Furniture Making**

**2 credit hour(s)****Prerequisite:** CARP 1320.

Students will learn basic joinery, hand carving and popular colonial furniture making techniques common to Spanish colonial furniture; includes designing and constructing a furniture project.

**Note(s):**

- 90 lab hours

**CARP 2005 - Carpentry Blueprint Reading II****4 credit hour(s)****Prerequisite:** CARP 1005 or department approval.

Introduces blueprint applications for residential homes, multiple family dwellings and commercial buildings, along with material estimating and volume measure.

**CARP 2030 - Carpentry Theory 2****3 credit hour(s)****Pre- or corequisite:** CARP 1005.**Recommended:** CARP 1030.

Introduces common materials and methods used for exterior and interior finish, moisture protection, exterior wall coverings, drywall and interior doors, trim and cabinet installation.

**CARP 2096-2996 - Special Topics****3-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**CARP 2130 - Metal Stud Framing****2 credit hour(s)****Pre- or corequisite:** CARP 2030 + CARP 2005.

Introduces common materials and methods used in metal framing and commercial carpentry. Provides practical, hands-on, experience erecting and installing metal stud framing.

**Note(s):**

- 15 theory hours
- 45 lab hours

**CARP 2230 - Concrete Forming and Rigging****2 credit hour(s)****Pre- or corequisite:** CARP 2030 + CARP 2005.

Introduces common materials and methods used for forming and placing concrete including rigging and lifting techniques used in a commercial setting.

**Note(s):**

- 15 theory hours
- 45 lab hours

**CARP 2997 - Independent Study****1-7 credit hour(s)****Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

## Chemistry

## **CHEM 1010 - Chemistry in Our Communities**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** MATH 0970\* + CHEM 1092.\*\*

This course will introduce non-science majors to the basic chemistry required to understand a variety of scientific topics currently in the news and affecting our community such as the ozone hole, global warming, acid rain, nuclear power, plastics, drugs, and genetic engineering. Students will develop the critical thinking skills to assess the risks and benefits of technology-based issues. By the end of the course, students will be able to critically evaluate scientific claims as presented in the popular press.

\* It is recommended that students take MATH 0970 prior to taking CHEM 1010 since a working knowledge of basic algebra is useful.\*\* Additionally, it is recommended that students take CHEM 1092 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **CHEM 1092 - Chemistry in Our Community Laboratory**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** CHEM 1010\* + MATH 0970.\*\*

This course will introduce non-science majors to the basic chemistry required to understand a variety of scientific topics currently in the news and affecting our community, and to see how chemistry is used in our society. Through laboratory exercises, students will develop the critical thinking skills to assess the risks and benefits of technology-based issues. By the end of this course, students will be able to critically evaluate scientific claims as presented in the popular press.

\*It is strongly recommended that students take CHEM 1010 concurrently with this lab. The lecture serves to enhance the student's understanding of the laboratory investigations.\*\*It is recommended that students take MATH 0970 prior to taking CHEM 1092 as an understanding of basic algebra is useful.

### **Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **CHEM 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **CHEM 1410 - Introduction to Chemistry**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Recommended:** CHEM 1492.\*

Introduces qualitative and quantitative aspects of general chemistry: atomic and molecular structure, periodic table, acids and bases, mass relationships, solutions and brief introduction to organic chemistry.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **CHEM 1492 - Introduction to Chemistry Laboratory**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** CHEM 1410.

Introduces experiments complementing CHEM 1410.

### **Note(s):**



- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **CHEM 1710 - General Chemistry I**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 1310 or appropriate placement score.

**Recommended:** CHEM 1792.\*

First of a two-term sequence for students in the sciences, engineering or pre-med. Atomic and molecular structure, chemical periodicity, mass and energy relationships and chemical reactions.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **CHEM 1792 - General Chemistry I Lab**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 1310 or appropriate placement score.

**Pre- or corequisite:** CHEM 1710.

A three-hour per week laboratory class containing experiments complementing the CHEM 1710 lecture class.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **CHEM 1810 - General Chemistry II**

**3 credit hour(s)**

**Prerequisite:** CHEM 1710 within the past 3 years + CHEM 1792 within the past 3 years + MATH 1315.

**Recommended:** CHEM 1892.\*

Emphasizes acids and bases, equilibrium, kinetics, thermodynamics, solubility, electro- and nuclear chemistry. Introduces coordination and organic chemistry.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **CHEM 1892 - General Chemistry II Lab**

**1 credit hour(s)**

**Prerequisite:** CHEM 1710 within the past 3 years + CHEM 1792 within the past 3 years + MATH 1315.

**Pre- or corequisite:** CHEM 1810.

A three-hour per week laboratory class containing experiments complementing the CHEM 1810 lecture class.

**Note(s):**

- 45 lab hours

### **CHEM 2096-2996 - Special Topics**

**1-3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CHEM 2210 - Organic Chemistry and Biochemistry**

**4 credit hour(s)**

**Prerequisite:** (CHEM 1410 + CHEM 1492) or (CHEM 1710 + CHEM 1792).

Introduces organic and biochemistry for students in health or environmental occupations: survey of organic functional groups including chemistry of living organisms. Emphasis on medical aspects.

### **CHEM 2710 - Organic Chemistry I**

**3 credit hour(s)**

**Prerequisite:** CHEM 1810 + CHEM 1892.

**Recommended:** CHEM 2792.\*

Introduces study of modern organic chemistry including bonding theory, structure and reactivity, physical properties and the reactions of organic compounds. Systematic examination of organic compounds based on their functional groups, including their synthesis and characterization by instrumental methods.

\* It is recommended that students take CHEM 2792 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **CHEM 2792 - Organic Chemistry I Laboratory**

**1 credit hour(s)**

**Pre- or corequisite:** CHEM 2710.

A three-hour per week laboratory class containing experiments complementing the CHEM 2710 lecture class.

**Note(s):**

- 45 lab hours

### **CHEM 2810 - Organic Chemistry II**

**3 credit hour(s)**

**Prerequisite:** CHEM 2710 + CHEM 2792.

**Recommended:** CHEM 2892.\*

Organic spectroscopic analysis. The chemistry of aromatic hydrocarbons, alcohols and ethers, aldehydes, ketones, carboxylic acids and derivatives, amines, amino acid, carbohydrates and other functional groups. Mechanisms and synthesis.

\* It is recommended that students take CHEM 2892 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **CHEM 2892 - Organic Chemistry II Laboratory**

**1 credit hour(s)**

**Prerequisite:** CHEM 2710 + CHEM 2792.

**Pre- or corequisite:** CHEM 2810.

A three-hour laboratory class per week containing experiments complementing the CHEM 2810 lecture class.

**Note(s):**

- 45 lab hours

## **Chicano Studies**

### **CHMS 1150 - Introduction to Chicano Studies**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Investigates present-day perspectives and historical and social conditions that have shaped and affected the lives of Mexican Americans.

## **Child Development**

### **CDV 1020 - 45 Hour Entry-Level Course**

**3 credit hour(s)**

Assists entry-level early care, education and family support individuals to advance their understanding and practice in the seven competency areas as defined by the state of New Mexico. The course provides opportunities for students to construct knowledge about children, families, communities and support systems through discussion, reflection and skill practice. Students are required to conduct

field-based assignments and may not miss more than 2 hours of the course due to state requirements. Successful completion of the course will qualify students to apply for the 45-Hour Certificate from the NM Office of Child Development to be certified to work as an early childhood educator.

**Note(s):**

- Does not require a high school diploma or GED

**CDV 1101 - Parents and Young Children**

**3 credit hour(s)**

Examines interactions of parents and children and diverse family configurations throughout the life cycle.

**CDV 1103 - Preschool Growth and Development**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Examines the cognitive, physical and social/emotional development of the preschool child. Requires observations in appropriate settings.

**CDV 1107 - Art and Play**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Focuses on the importance of play and art in the development of children. Introduces basic analysis techniques.

**CDV 1890 - Family Studies Practicum I**

**2 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Demonstrates skills and competencies as indicated in coursework/objectives. Provides practical experiences in an approved FS, ECME, or community setting in working with families and children from birth to age 36 months.

**Note(s):**

- 60 practicum hours

**CDV 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**CDV 2201 - Middle Childhood Growth and Development**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Presents the principles of growth and development for 6 to 11-year-old children in cognitive, physical and social-emotional areas.

**CDV 2202 - Adolescent Growth and Development**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Examines the development and communication patterns of adolescents within the family setting.

**CDV 2212 - Special Issues in Child and Family Development**

**3 credit hour(s)**

**Prerequisite:** Department approval.

An exit seminar that presents a balance of research findings, theory and application. Focuses on critical contemporary issues in the field.

## **CDV 2218 - Strengthening Family Structures**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Examines families from a structural perspective by being exposed to systems thinking. Explores how families are similar to and different from others in society, including biological and social systems. Studies and encourages the practice of a strength-based perspective.

## **CDV 2219 - Marriages and Families**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Provides insights into contemporary marriage and family situations. Focus on decision-making for better understanding of families and the broader society.

## **CDV 2297 - Independent Study**

**1-3 credit hour(s)**

**Prerequisite:** Department approval.

Defines and studies a specific problem while working with the instructor.

# **College Success**

## **CSE 1101 - College Success**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Introduces students to academic and personal skills essential for college success. Topics include techniques for time management, learning strategies, test preparation, decision making, critical thinking, college textbook reading and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self-management, self-awareness and interdependence.

## **CSE 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

# **Commercial Carpentry Apprenticeship**

## **CCAP 1115 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

## **CCAP 1125 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

## **CCAP 1215 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

### **CCAP 1225 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

### **CCAP 1315 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

### **CCAP 1325 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

### **CCAP 1415 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

### **CCAP 1425 - Commercial Carpentry Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the carpentry industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, commercial carpentry process for shop tools and equipment, supplies and materials, building systems, blueprint reading, concrete, specifications and code interpretation.

## **Communication**

### **COMM 1101 - Introduction to Communication**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or CSE 1101 or appropriate placement score.

Focuses on principles and concepts of different studies of human communication. Introduces the concepts and principles of mass media, public speaking, interpersonal, small group and organizational communication. This course will be conducted in a lecture-discussion format.

### **COMM 1110 - Mass Media and Society**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or CSE 1101 or appropriate placement score.

**Recommended:** ENG 1101.\*

Examines the roles media play in American society and their effects on other forms of communication.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Directly transfers to UNM as equivalent course

**COMM 1130 - Public Speaking**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or CSE 1101 or appropriate placement score.

**Recommended:** ENG 1101.\*

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

\* This course requires writing critical essays utilizing multiple source materials.

**COMM 2096-2996 - Special Topics**

**1-3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** (ENG 1101 or appropriate placement score) + COMM 2221.

Presents various topics.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**COMM 2221 - Interpersonal Communication Studies**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Provides overview of perception, emotions, nonverbal communication, language, listening, defensiveness and relational conflict. Emphasizes developing communication styles and skills to enhance effectiveness in professional and personal relationships.

**COMM 2223 - Introduction to Nonverbal Communication Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Examines how the face and eyes, gestures, touch, voice, physical appearance, space, time and environment communicate in personal and professional interactions.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Transfers to UNM as 200-level Communication elective course. Does not transfer as the equivalent 300-level course at UNM

**COMM 2225 - Small-Group Communication Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Examines group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making in small group processes.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Directly transfers to UNM as equivalent course

**COMM 2232 - Business and Professional Communication Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Emphasizes developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

\* This course requires writing critical essays utilizing multiple source materials.

### **COMM 2240 - Organizational Communication**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Focuses on communication networks, power and authority, manager/employee relationships, leadership and interviewing in organizational contexts.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Typically offered online

### **COMM 2268 - Media Theories**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Introduces students to a variety of media theories and models, including content analysis, the effects tradition, and sociological, historical, critical, and cultural perspectives. Focuses on the key issues in media theory, including the nature of mass media, influences on human behavior, and the media as reflector and creator of society.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Typically offered online
- Directly transfers to UNM as equivalent course

### **COMM 2270 - Communication Studies for Teachers**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

\* This course requires writing critical essays utilizing multiple source materials.

### **COMM 2280 - Gender Communication Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101 + COMM 2221.\*

Focuses on communication differences between men and women, implications and consequences of these differences and discussion of various strategies for change in business, media, educational and intimate contexts.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Typically offered online

### **COMM 2281 - Intercultural Communication Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101 + COMM 2221.

Focuses on culture and differences in communication values and styles (verbal and nonverbal) Analysis of intercultural encounters and development of skills for more effective intercultural communication.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Typically offered online

## **COMM 2282 - Family Communication Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101 + COMM 2221.\*

Examines family systems theory, communication patterns, rules, roles, themes, power, intimacy ethnicity and conflict in families.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Typically offered online

## **COMM 2289 - Listening**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101 + COMM 2221.\*

Investigates and applies current research in listening theory. Analyzes the appropriateness and applicability of five major types of listening in academic, business, media and interpersonal contexts.

\* This course requires writing critical essays utilizing multiple source materials.

# **Community and Regional Planning**

## **CRP 1165 - Introduction to Community and Regional Planning**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduction to the social, economic, political and physical factors involved in development of cities and towns. Overview of the development of community and regional planning, as well as prominent theories of planning practice. Emphasizing the connection between the theoretical and historic material and current planning practice and the interrelationships between various land uses.

## **CRP 1181 - Introduction to Environmental Problems**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Examination of the fundamental concepts and issues related to the natural environment that planners face. Focus on land use and open space planning, planning and use of resources, interactions of urban residents and the physical environment, and the role of government in formulating appropriate policies and strategies.

## **CRP 2265 - Sustainable Community Planning Methods**

**3 credit hour(s)**

**Prerequisite:** CRP 1165.

An overview of sustainability covering topics such as the origins of sustainability, tools for sustainability planning, global dimensions of sustainability (including different approaches to planning), and visions for creating sustainable futures through the basic concepts, processes and techniques of planning.

# **Community Dental Health Coordinator**

## **CDHC 1010 - Foundations for Dental Advocacy and Outreach**

**2 credit hour(s)**

**Pre- or corequisite:** CDHC 1020 + CDHC 1035 + CDHC 1045 + HLTH 1030.



Develops foundational knowledge and practical skills needed to address and affect oral health and wellness in a community. Covers community diagnostics, networking, resource mapping, communication and cultural competence including motivational interviewing, human behaviors, and health concepts emphasizing oral health. Patient assessment, feedback, education, and behavior change interventions for dental patients included.

### **CDHC 1020 - Dental Health Teaching and Learning Skills**

**2 credit hour(s)**

**Pre- or corequisite:** CDHC 1010 + CDHC 1035 + CDHC 1045.

Overview of teaching and learning skills as they apply to the Dental Health field. Includes teaching and learning techniques, goal setting and critical thinking. Also covers internet usage and safety as well as an introduction to concepts of Life Long Learning

### **CDHC 1035 - Dental Health Screening and Classification**

**3 credit hour(s)**

**Pre- or corequisite:** CDHC 1010 + CDHC 1020 + CDHC 1045.

Dental health screening and classification procedures. Includes data collection, patient screening techniques and the development of preventive plans.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **CDHC 1045 - Palliative Care**

**3 credit hour(s)**

**Pre- or corequisite:** CDHC 1010 + CDHC 1020 + CDHC 1035.

Patient care and temporization of cavities. Includes procedures for use of temporary/interim restorative materials for single and multiple surface cavities.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **CDHC 1119 - Fundamentals of Community Health Coordination**

**3 credit hour(s)**

**Corequisite:** DA 1107 + DA 1192 + **DA 1193** + **DA 1292**.

Introduction to the study of community dental health procedures and preparation of the student for clinical. Included topics: anatomy, microbiology, infection control, positioning and ergonomics, instrumentation, oral pathology, and medications.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **CDHC 2098 - Community Dental Health Coordinator Internship**

**6 credit hour(s)**

**Prerequisite:** CDHC 1010 + CDHC 1020 + CDHC 1035 + CDHC 1045.

**Pre- or corequisite:** (BA 2133 or BA 2153 or BA 2155 or BA 2282) + (COMM 1101 or COMM 2240 or COMM 2280 or COMM 2281 or COMM 2282).

Practical application of the Community Dental Health Coordinator (CDHC) skills in an internship setting. Includes knowledge and skills required to organize, develop and manage integrated dental care in community-based clinics within practice standards.

**Note(s):**

- 270 internship hours

## **Community Health**

### **CHW 1010 - Community Health Worker Fundamentals**

**2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** HLTH 1030.

**Corequisite:** CHW 1020.

This course provides an interdisciplinary introduction to Community Health Work. It provides students with the opportunity to learn the theory and skills to function as a community health worker. This course introduces the CHW student to the profession of community health, effective communications skills and interpersonal skills needed to work effectively in the community.

### **CHW 1020 - Health Promotion**

**2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** HLTH 1030.

**Corequisite:** CHW 1010.

This course introduces the student to basic skills needed to be proficient as a Community Health Worker. Topics include health coaching skills, service coordination skills and technical teaching skills.

### **CHW 1090 - Community Health Worker Practicum**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** CHW 1010 + CHW 1020.

Provides the CHW student with clinical skills needed for performing health screenings and support standards of care.

**Note(s):**

- 135 Practicum Hours

## **Community Paramedic**

### **CEMS 1070 - Assessment in Primary Care and Public Health**

**2 credit hour(s)**

**Pre- or corequisite:** HLTH 1030

With the knowledge provided through the term, the Community EMT student will learn assessment techniques including the use of technology. Laboratory sessions will practice assessment, identification and management plans of patients with sub-acute and chronic conditions.

### **CEMS 1090 - Community EMT Clinical I**

**1 credit hour(s)**

**Pre- or corequisite:** CEMS 1070

Provides the student with the opportunity to practice concepts learned and skills in the clinical setting. Pediatric, adult, geriatric, mental health, substance abuse, immunizations, and oral health skills for the Community EMT will be emphasized.

### **CEMS 2020 - Social Determinants of Health**

**2 credit hour(s)**

**Prerequisite:** Department approval.

The Community EMT student will require knowledge regarding the impact the socioeconomic environment has on health including barriers and means to overcome such barriers. This course will also introduce Health Maintenance Exams and the subject of behavioral health.

### **CEMS 2030 - Community Paramedic Role in Public Health and Primary Care**

**3 credit hour(s)**

**Pre- or corequisite:** CEMS 2050.

CP 2030 will expand upon previous coursework specifically in the area of Public Health and Primary Care. Public Health goals will include understanding the federal, state and local public health models and the role of a Community Paramedic in the public health system. Primary care will introduce the Community Paramedic to the roles of a Primary Care provider. In addition the Primary Care section will allow the Community Paramedic to begin understanding a primary care approach to management of common diseases.

### **CEMS 2040 - Cultural Competency**

**1 credit hour(s)**

**Prerequisite:** Department approval.

There are many factors to developing outreach programs that meet the needs of clients and their communities. The Community EMT will need to examine the different social, psychological, and sociological theories of how race, ethnicity, religion effect how individuals and communities interact with each other and society. This is what we term: Cultural Competence.

**CEMS 2050 - Community Paramedic Role in the Community****2 credit hour(s)**

**Prerequisite:** Department approval.

The CP will work proactively to prevent disease and injury in their community and to build strong networks. The role in the community will be based on local needs. This course will prepare the student to prepare Injury Prevention Plans and Community Needs Assessments for community health mapping.

**CEMS 2110 - Personal Care, Safety and Boundaries****1 credit hour(s)**

**Pre- or corequisite:** CEMS 2050.

Caring for oneself is a priority when caring for others. The Community Paramedic is able to do this through developing a personal health and wellness plan that includes a self-assessment for stress and developing ways of coping with such stress. In addition they will be working in various environments and with people of various backgrounds so personal safety is also of the utmost importance.

**CEMS 2120 - Advanced Patient Assessment****3 credit hour(s)**

**Pre- or corequisite:** CEMS 2050.

With the knowledge provided through the term, the Community Paramedic student will learn advanced assessment techniques including the use of technology. Laboratory sessions will practice assessment, identification and management plans of patients with acute, sub-acute, and chronic conditions.

**Note(s):**

- 30 theory hours
- 45 lab hours

**CEMS 2190 - Clinical Experience for the Community Paramedic****5 credit hour(s)**

**Pre- or corequisite:** CEMS 2050.

Laboratory and clinical experience in pediatric, adult, geriatric, mental health, substance abuse, immunizations, and oral health skills for the Community Paramedic.

**Note(s):**

- 225 clinical hours

**CEMS 2999 - Community Paramedic Capstone****1 credit hour(s)**

**Prerequisite:** Department approval.

This capstone course is designed to assess the graduate competencies required for the Community Paramedic Certificate in the areas of knowledge base and patient management skills. Included in this course is a practical exam on patient assessment and a comprehensive final. Students will be required to complete this course on campus or with an approved proctor.

**Computer Assisted Drafting****CAD 1001 - Basics of CAD****1 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Introduces the fundamentals of computer aided drafting.

**CAD 1003 - CAD for Landscaping**

### **1 credit hour(s)**

**Recommended:** IT 1010 + CAD 1001.\*

Introduces the application of computer aided drafting for Landscaping Architecture.

\* It is recommended that students take IT 1010 and CAD 1001 prior to taking CAD 1003, as familiarity with computer file systems and the principles of 2 dimensional computer aided drafting will be beneficial to students in this course.

**Note(s):**

- 10 theory hours
- 15 lab hours

## **Computer Information Systems**

### **CIS 1096-1996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CIS 1120 - Microsoft Word**

**3 credit hour(s)**

**Prerequisite:** IT 1010.

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.

**Note(s):**

- 45theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1145 - Microsoft PowerPoint**

**2 credit hour(s)**

**Recommended:** IT 1010.\*

Provides hands-on experience in graphics presentation software, which emphasizes charting, drawing, organizing and displaying text and images.

\* Students should have basic computer knowledge and skills, including Windows operating systems, file management.

**Note(s):**

- 30 theory hours
- 20 lab hours
- Course taught in a computer lab

### **CIS 1150 - MS Outlook**

**1 credit hour(s)**

**Recommended:** IT 1010.\*

Covers concepts such as managing messages, appointments, contacts and tasks, as well as tracking activities.

\* Students should have basic computer knowledge and skills, including Windows operating systems, keyboarding, file management.

**Note(s):**

- 15 theory hours
- 10 lab hours

### **CIS 1173 - Excel Complete**

**3 credit hour(s)****Prerequisite:** IT 1010.

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 1183 - Access Complete****3 credit hour(s)****Prerequisite:** IT 1010.

Covers Access software from creating basic databases, macros and advanced design tools in databases.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 1250 - Python Programming I****3 credit hour(s)****Pre- or corequisite:** IT 1010.

Introduces the Python programming language. The course provides a basic overview of the language and includes setting up the Python environment. We cover the various use of Python, including scripting, classes and objects and building Graphic User Interfaces. Students will research other technical fields where Python scripting is used. Time will be spent building programs using Python's comprehensive standard library.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 1275 - C++ Programming I****3 credit hour(s)****Prerequisite:** MATH 1310 or higher.

Includes structured programming techniques, programming logic and control using C++. Covers data types, variables, arithmetic, control statements, basic functions, pointers, arrays and structures. Object-oriented concepts are presented.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 1280 - .Net I/C#****3 credit hour(s)****Prerequisite:** CIS 1275.

Provides an accelerated introduction to the .NET Framework and the C# development environment within a C# context. Course scope includes review of C#.NET language syntax and structure, development of C#.NET event driven applications incorporating a graphical user interface and user defined classes and interfaces. Course includes abstract classes, stressing inheritance and polymorphism, and concludes with a web application interfacing with a database.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 1310 - Introduction to Digital Media**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Explores concepts of how text, graphics, sound, images and video come together in a multimedia program.

## **CIS 1325 - Visual Communication**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course will explore how we see and use visuals to communicate information. Students will develop critical and creative thinking skills in applying concepts of basic design principles. Students will apply the concepts with hands-on and analysis assignments. These concepts will then be applied to design for advertising, print, multimedia, web design and 3-D design. The business of design will also be covered with emphasis on client relations, estimates, billing, and planning.

## **CIS 1330 - Photoshop**

**3 credit hour(s)**

**Prerequisite:** IT 1010.

Focuses on techniques for modifying raster images using Adobe Photoshop. Students learn to make selections, work with layers, color correction, retouching techniques, masking, use channels, use paths, typography, compositing, and painting. Students learn output techniques for both screen and print.

### **Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 1410 - IT Essentials I: PC Hardware and Software**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Covers the fundamentals of computer hardware and software as well as advanced concepts. The basics of computer hardware and Network Operating Systems (NOS) technologies are introduced in a lab-oriented environment.

### **Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 1415 - Network Essentials**

**3 credit hour(s)**

**Prerequisite:** CIS 1410.

Focuses on the installation and administration of network communication systems. Students will learn the general theory of network communications and basic setup, configuration, and management of network communication protocols on networking devices, including servers, routers and switches.

### **Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 1420 - Introduction to Computer Networking**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Offers concepts of data communications theory including data communications networking terms, topologies, media, components and applications.

### **Note(s):**

- This course is in a teach-out cycle. Students will need to take CIS 1415.

### **CIS 1425 - Network Topologies/Cisco Academy Semester 1**

**3 credit hour(s)**

**Pre- or corequisite:** CIS 1410.

Introduces building networks and running a network operating system. Uses the OSI model as a guide for study of cabling protocols, data link protocols (Ethernet, FDDI, ATM, etc.) and network protocols (IP and IPX) Introduces switches, bridges, gateways and routers.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1513 - Database Design and Introduction to SQL**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

This course lays the foundation for understanding relational databases and database design. Data modeling concepts and Entity Relationship Diagramming (ERD) are introduced. Students will create Data Models and ERD's from complex business scenarios while building collaboration and problem solving skills. The SQL portion of the course teaches the student the basics of retrieving data from a database server. Each student benefits by learning industry standards while utilizing the latest database software and online training materials.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1610 - Configuring Windows Client**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Focuses on managing the Windows operating system to manage user accounts and groups and to control access to files and other resources. Covers concepts such as internetworking, protocols, remote access, performance tuning and troubleshooting. This course may assist in preparation for Microsoft certifications. Version taught subject to change. Please check with the School of Business & Information Technology.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1680 - Linux Essentials**

**3 credit hour(s)**

**Prerequisite:** IT 1010.

Introduces the LINUX operating system, with emphasis on the basic commands of the environment. Students will learn the LINUX file system and how to perform common file maintenance from the command line as well as the GUI. Covers how to install, upgrade and delete application packages, use network utilities and perform common system administration tasks.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1713 - Web Publishing**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Use Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) to develop and publish websites. Work with Content Management Systems (CMS). Identify the basic interactions between the web client and the web server.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1715 - Overview of Web Technologies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** IT 1010.

This course surveys the different technologies used for Web development. Topics covered include Content Management Systems (CMS), Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), client and server-side scripting languages as well as basic database processing techniques and web frameworks.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1730 - JavaScript Web Programming**

**3 credit hour(s)**

**Prerequisite:** CIS 1275.

This course introduces students to DOM scripting using JavaScript. Students will learn the skills needed to add interactivity to web pages. This course builds on knowledge of hypertext mark-up language and CSS to expand the functionality of web pages by including aspects of JavaScript including browser events, forms validation, cookies and user interfaces. Students use frameworks in addition to writing original code.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab
- CIS 1210 is also a valid prerequisite for this course

### **CIS 1750 - PHP Web Programming**

**3 credit hour(s)**

**Pre- or corequisite:** CIS 1730.

This course provides the PHP, MySQL and framework skills necessary to design and develop dynamic, database-driven web sites. The emphasis is on using existing code libraries in addition to writing original code.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 1810 - Information Storage and Management (ISM)**

**3 credit hour(s)**

**Prerequisite:** CIS 1410.

Information Storage and Management builds a strong understanding of underlying storage technologies and prepares you to learn advanced concepts, technologies, and products. You will learn about the architectures, features, and benefits of Intelligent Storage Systems; storage networking technologies such as FC-SAN, IP-SAN, NAS, Object-based and unified storage; business continuity solutions such as backup, replication, and archive; the increasingly critical area of information security; and the emerging field of cloud computing.



**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 1858 - Computer and Network Ethics****3 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.

This course exposes the student to the topic of Cyber Ethics, Professionalism, and Career Development. The course provides students seeking a career in Cyber Security insight on professional behavior required in a security job and how to develop a professional career in Cyber Security.

**CIS 2095 - Cooperative Education****3 credit hour(s)****Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 135 hours at business or training-related supervised work stations. Student trainees are paid by the cooperating firm and supervised work stations. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**CIS 2096-2996 - Special Topics****1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**CIS 2097 - Independent Study****1-6 credit hour(s)****Prerequisite:** Department approval.

Allows student and instructor to define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

**Note(s):**

- All courses ending in 97 are independent study courses

**CIS 2098 - Internship****3 credit hour(s)****Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 135 hours at business or training-related supervised work stations. Students are not paid for their work but are supervised jointly by CNM and the company.

**CIS 2235 - Java Programming I****3 credit hour(s)****Prerequisite:** CIS 1275.

Provides an accelerated introduction to JAVA programming language. Covers class design and implementation, object-oriented design topics, Graphic User Interface development, exception handling, file input/output, inheritance, polymorphism.

**Note(s):**

- Attention is given to preparation for the Sun Java Associate Certification test
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2237 - Android App Dev with Java**

**3 credit hour(s)****Prerequisite:** CIS 2235.

Focuses on advanced Java technologies. Course covers design, implementation and deployment of advanced programs based on Java which may include web programming, small device applications (Android, phones, pads, etc.), and related technologies including web services, advanced graphics, databases, multimedia, and other relevant technologies.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2270 - Principles of Graphics Programming****3 credit hour(s)****Prerequisite:** CIS 2275.

The course covers fundamentals of 3D graphic programming using the C/C++ language. Topics include orthographic and perspective rendering, clipping, window viewport, drawing primitives, color, material and lighting properties.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2275 - C++ Programming II (Object-Oriented Programming)****3 credit hour(s)****Prerequisite:** CIS 1275.

Continues coverage of C++ programming. Covers structures, enumerated data types, C++ function enhancements, classes and objects, inheritance and virtual functions. This advanced course provides a solid foundation in object-oriented programming methods.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2277 - C++ Programming III (Advanced OOP)****3 credit hour(s)****Prerequisite:** CIS 2275.

Covers advanced programming including stacks, queues, linked lists, template classes, inheritance and polymorphism and other computer science problems.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2284 - .NET II/C#****3 credit hour(s)****Prerequisite:** CIS 1280.

Course focuses on development of ASP.net web applications using Microsoft's Visual Studio Integrated Developer Environment. Students will learn to use Microsoft's .NET framework to build web applications that use a variety of web controls, can be used by users to access information stored in relational databases, implements site navigation and provides the capability to administer web site membership, roles and permissions. Students will define their web site using the Agile methodology then implement it using the techniques learned in the class.

**Note(s):**

- 45 theory hours
- 15 lab hours

- Course taught in a computer lab

### **CIS 2310 - Page Layout and Design**

**3 credit hour(s)**

**Prerequisite:** CIS 1330.

Focuses on professional high-quality page design for business publications, newsletters, flyers. Brochures, business cards and advertisements using page layout tools for print and the Web.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2336 - Post Production Special Effects**

**3 credit hour(s)**

**Prerequisite:** CIS 1310.

Focuses on concepts such as the ability to generate animations and composites of all kinds, from stylized motion graphics to realistic visual effects. Create media production and motion graphics effects for film and video. Uses flexible digital motion graphics and compositioning software that enables digital effects to be easily integrated into live video or film. For visual effects and motion graphics pros of all stripes - from broadcast professionals to VFX supervisors to web designers who need to produce occasional video segments.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2340 - Dreamweaver**

**2 credit hour(s)**

**Pre- or corequisite:** CIS 1330.

Explores concepts such as building websites using rollovers, tables and style sheets.

**Note(s):**

- 30 theory hours
- 20 lab hours
- Course taught in a computer lab

### **CIS 2341 - Web Presence**

**2 credit hour(s)**

**Prerequisite:** CIS 1330.

In this course students will learn how to build a comprehensive web presence using current social media tools and professional Web development object based software packages. Skills taught will be related to the design, use and rationale for using specific social media marketing tools, while learning how to effectively communicate with various online audiences. These concepts will be taught using individual and team based projects that focus on problem solving, critical thinking, universal design principles, research topics and case studies.

### **CIS 2351 - Mobile Design**

**3 credit hour(s)**

**Prerequisite:** CIS 1713.

Current technology will be used to create and deliver interactive animated audio and video content to a variety of popular media devices including computers, phones, and tablets. CIS 2350 Flash has been discontinued and this course is its replacement. CIS 2351 and CIS 2350 can be substituted for each other in the appropriate catalog.

**Note(s):**

- 45 theory hours
- 15 lab hours

- Course taught in a computer lab

### **CIS 2355 - Adobe Illustrator**

**3 credit hour(s)**

**Prerequisite:** CIS 1330.

Explores concepts such as vector-based artwork for print, presentation and the Web using draw tools to produce templates, patterns and logos for a wide variety of business publications ranging from business cards to banners.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2360 - Digital Video Editing**

**3 credit hour(s)**

**Prerequisite:** CIS 1310.

Lab-based instruction and application of the theories and techniques of nonlinear digital video editing. Emphasis will be on editing and integrating special effects for video, CD-ROM and the Web.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in computer lab

### **CIS 2375 - Digital Design Studio**

**3 credit hour(s)**

**Prerequisite:** CIS 1330 + CIS 2355.

Examine and practice vector-based illustration and artistic skills in raster applications via project based instruction. Critical thinking and problem solving projects are taught in concert with professional high-level software and visual skills. Skills are taught as they relate to creating portfolio ready work and presentations.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in computer lab

### **CIS 2381 - Advanced Photoshop**

**3 credit hour(s)**

**Prerequisite:** CIS 1330.

Expands on the basic Photoshop skill set to develop proficiency with selections, masking, channels, filters, color correction, painting tools, vector integration, video, 3D, special effects, and compositing techniques. Focuses on the core image-editing tools of Photoshop that can be universally applied to photography, print, film or the web. The material is covered in production-oriented projects which are presented on the web and students develop work suitable for portfolios.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2420 - Basic Router Config./Cisco Academy Semester 2**

**3 credit hour(s)**

**Prerequisite:** CIS 1425.

Configure routers, other layer 3 devices and their associated protocols in different network scenarios. Prepares students for the Cisco Certified Networking Associate certification.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2423 - Local Area Network Management/Cisco Academy Semester 3**

**3 credit hour(s)**

**Prerequisite:** CIS 2420.

This Course will cover how to configure and troubleshoot routers/switches in a LAN environment. This course prepares students for the Cisco Certified Networking Associate certification

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2425 - Wide Area Network (WAN) Management/Cisco Academy Semester 4**

**3 credit hour(s)**

**Prerequisite:** CIS 2423.

Configure and troubleshoot routers/switches in a WAN environment. Prepares students for the Cisco Certified Networking Associate certification.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2427 - Troubleshooting Networks**

**3 credit hour(s)**

**Pre- or corequisite:** CIS 2425.

Allows students to run a wide variety of applications over a network and apply troubleshooting techniques using software and LAN and WAN analyzing equipment.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2450 - Fundamentals of Network Security**

**3 credit hour(s)**

**Prerequisite:** CIS 2420.

Introduces Network Security and overall security processes. The focus of the course will be hands-on experience for students with emphasis on: security policy design and management, security technologies, products and solutions.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2520 - Introduction to SQL (Structured Query Language)**

**3 credit hour(s)**

**Prerequisite:** CIS 1513.

Introduction to Structured Query Language (SQL) within the context of an Oracle database. Students will create basic and complex queries (joining, sub-queries, aggregate functions, grouping data), and learn to manipulate data using insert, update and delete statements. Students will create tables, views, constraints, indexes and sequences and benefit by learning the industry standards while

utilizing the latest database software and online training materials.

**Note(s):**

- This course also prepares students for the 1st Oracle Associate Certification Test.
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2521 - Database Programming with PL/SQL**

**3 credit hour(s)**

**Prerequisite:** CIS 2520.

Introduces Oracle's PL/SQL programming language, which is a standard procedural language for relational databases. Students will learn and develop PL/SQL programs that use built-in SQL functions, conditional and iterative control structures, stored procedures, functions packages, triggers and how to trap exceptions. Each student benefits by learning the industry standards while utilizing the latest database software and online training materials.

**Note(s):**

- Prepares students for 2nd Test, which will award them with the Oracle Certified Associate Certification.
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2522 - APEX - Build Web Applications**

**3 credit hour(s)**

**Prerequisite:** CIS 2520.

Students will build, test and deploy web applications using an enterprise database system in an Oracle APEX environment. The students learn how to build standard or custom forms with list items, radio buttons, check boxes and Lists of Values (LOV), as well as customizing forms with PL/SQL programming.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2524 - PeopleSoft Enterprise Reporting Services**

**3 credit hour(s)**

**Prerequisite:** CIS 2521.

Introduces the PeopleSoft application development methodology. This course provides a general description of PeopleSoft system architecture and the tool set used to develop new or customize existing PeopleSoft applications. Students receive hands-on experience with the PeopleSoft Application Designer to create and modify PeopleSoft definitions such as fields, records, pages, and components. By the end of this course you will be able to use PeopleSoft Application Designer to create and deploy a PeopleSoft internet application.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

### **CIS 2525 - Developing Client/Server Apps with Enterprise Databases**

**3 credit hour(s)**

**Prerequisite:** CIS 2520.

Students will learn how the programming environment interfaces to enterprise databases. Students will be taught beginning database management skills and the report development life cycle, while learning how to deliver and present business information. The course will use enterprise databases such as SQL Server, and/or Oracle. Topics covered include: Microsoft Database Engine (MSDE), Transact SQL, stored procedures, views, and extensive coverage of enterprise reporting systems.

**Note(s):**

- This course may aid students in preparing for MCTS certification (Microsoft SQL Server, Database Development).
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2620 - Configuring Windows Server****3 credit hour(s)****Pre- or corequisite:** CIS 1415.

Focuses on user and group management, client and server management and file-sharing management. This course may assist in preparation for Microsoft certification. Version being taught subject to change, please check with school.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2630 - Administering Windows Server****3 credit hour(s)****Prerequisite:** CIS 2620.

Focuses on how to configure Windows Server for a variety of network roles. Subjects covered include application server, file server, Internet Information Server, terminal services server and high availability technologies.

**Note(s):**

- This course may assist in preparation for MCTS or MCITP certification. Server version being taught subject to change.
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2634 - Managing and Maintaining Windows Client****3 credit hour(s)****Prerequisite:** CIS 1610.

These students master configuration or support for Windows client computers, devices, users and associated network and security resources.

**Note(s):**

- This course may assist in preparation for MCSA certification. Server version being taught is subject to change.
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

**CIS 2650 - Advanced Windows Server****3 credit hour(s)****Prerequisite:** CIS 2620.

This course will help validate the skills and knowledge necessary to administer a Windows Server 2012 Infrastructure in an enterprise environment including implementing, managing, maintaining and provisioning services.

**Note(s):**

- This course may assist in preparation for Microsoft certification. Server version being taught is subject to change.
- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 2670 - Computer Security+**

**3 credit hour(s)**

**Prerequisite:** CIS 1415 or department approval.

Focuses on an overview of network and computer security. Topics included are general security concepts, communication security, infrastructure security, operational and organizational security.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 2740 - Cascading Style Sheets**

**3 credit hour(s)**

**Prerequisite:** CIS 1713.

Introduces the fundamentals of Cascading Style Sheets and their role in separating the content of Web pages from their presentation. Provides a firm understanding of how CSS works and how they are used to format and style Web pages.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 2760 - Web Metrics**

**3 credit hour(s)**

**Prerequisite:** CIS 1713.

Describe web server and web browser interactions and identify best practices for making web pages fast. Measure and analyze how visitors use your site, how they arrived on your site, and how you can improve your site. Prepare for website visitor analytics industry certification.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course is taught in a computer lab

## **CIS 2761 - Web Widgets**

**3 credit hour(s)**

**Prerequisite:** CIS 1730.

Study web widget public application programming interfaces to use content from third-party websites and to share content with third party websites.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 2762 - Search Engine Optimization**

**3 credit hour(s)**

**Prerequisite:** CIS 2760.

Study search engine algorithms and website optimization strategies to improve websites for search engine result page ranking.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab



## **CIS 2763 - Web Programming Framework**

**3 credit hour(s)**

**Prerequisite:** CIS 1730 or CIS 1750.

This course introduces concepts, techniques, technologies and APIs for web application development. The main focus of the course is on design patterns employed by modern full-stack web frameworks.

**Note(s):**

- 45 theory hours
- 15 lab hours
- Course taught in a computer lab

## **CIS 2810 - Cloud Infrastructure I**

**3 credit hour(s)**

**Prerequisite:** CIS 1810.

This hands-on course explores installation, configuration, and management of fundamental cloud infrastructure components, including virtual server hypervisor, and a centralized virtual server management system. Upon completion of this course, you should be capable of implementing and providing operations management of new dynamic virtual infrastructures.

## **CIS 2820 - Cloud Infrastructure II**

**3 credit hour(s)**

**Prerequisite:** CIS 2810.

This course instructs in the installation, configuration, and management of fundamental virtual infrastructure components, including remote desktop protocols, managing users, sessions, and policies. Upon completion of this course, you should be capable of implementing and providing operations management for virtual infrastructures. Completion of this course will prepare you for taking the VMware Certified exams.

## **CIS 2853 - Network Defense Basics**

**3 credit hour(s)**

**Prerequisite:** CIS 2670.

This course will provide fundamental skills needed to analyze the internal and external security threats against a computer network. Students will learn how to evaluate network and Internet security issues and design, and how to implement successful security policies and firewall strategies to defend against system and network vulnerabilities.

## **CIS 2857 - Ethical Hacking**

**3 credit hour(s)**

**Prerequisite:** CIS 2670.

This course examines the tools, techniques and technologies used in the technical securing of information assets. Students will receive in-depth information about the software and hardware components of Information Security and Assurance. Students will be immersed into the Hacker Mindset so they will be able to defend against cyber security attacks.

## **CIS 2860 - Digital Forensics**

**3 credit hour(s)**

**Prerequisite:** CIS 2670.

Presents students a structured approach to computer forensics and evidence analysis. Students will acquire the necessary hands-on experience on various forensic investigation techniques and standard forensic tools necessary to successfully carry out a computer forensic investigation.

## **CIS 2899 - Cyber Security Capstone**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Students will complete a comprehensive project designed to encourage application of intellectual understanding of program concepts and competencies. This course will focus on assessment of student learning outcomes for the cyber security program.

**Note(s):**

- Taken in student's last term

## **CIS 2999 - Capstone Course**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on assessment of student learning outcomes for program of study.

**Note(s):**

- Taken in student's last term.

## **Computer Science**

### **CSCI 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CSCI 1151 - Introduction to Programming for Non-Majors of Computer Science**

**4 credit hour(s)**

**Prerequisite:** MATH 1415 or MATH 1530 or appropriate placement score.

Designed for non-majors of computer science interested in programming, or developing useful problem solving skills. Explores the relationship between programming and problem solving using programming languages.

### **CSCI 1152 - Introduction to Programming for Computer Science Majors**

**4 credit hour(s)**

**Prerequisite:** MATH 1415 or MATH 1530 or appropriate placement score.

Introduction to computer programming designed for those interested in majoring or minoring in computer science or as a useful problem-solving skill. Explores the relationship between programming and problem solving, using programs written in Java.

### **CSCI 1153 - Programming in Matlab**

**4 credit hour(s)**

**Prerequisite:** MATH 1415 or MATH 1530 or appropriate placement score.

An introduction to computing. The objective of this course is to help students understand the relationship between computing and problem solving. A general understanding of matrices and basic computer knowledge is beneficial for success in this course.

### **CSCI 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CSCI 2201 - Mathematical Foundations of Computer Science**

**4 credit hour(s)**

**Prerequisite:** CSCI 1151 or CSCI 1152 or (CSCI 1153 + MATH 1710).

This course is an introduction to discrete mathematics as used in computer science. Topics include logic, methods of proofs, set theory, relations, functions, algorithms, elementary number theory, Boolean algebra, induction, recursion, combinatorics, graph theory and models of computation. Some programming is required.

### **CSCI 2251 - Intermediate Computer Programming**

**4 credit hour(s)**

**Prerequisite:** CSCI 1151 or CSCI 1152 or CSCI 1153.

Introduces the methods underlying modern program development. Specific topics will include object oriented design and the development of graphical user interfaces. Programming assignments will emphasize the use of objects implemented in standard

libraries.

## Construction Management

### CM 1105 - Construction Detailing

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score.

Introduces the basics of manual drawing and drafting, construction detailing, construction contract documents, working drawings and blueprint reading.

**Note(s):**

- 30 theory hours
- 45 lab hours

### CM 1110 - Construction Materials and Techniques

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score.

Introduction to the construction industry, educational opportunities, materials, techniques and terminology of construction.

### CM 1115 - Commercial Construction Theory

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score or department approval.

Through exercises and lecture students will become familiar with model building codes, the project manual/ specifications and zoning and planning codes. Students will investigate how they affect and govern the construction process.

### CM 1205 - Computer Aided Construction Drafting/Engineering

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score or department approval.

Introduces principles and techniques of computer graphic applications used in the construction industry.

**Note(s):**

- 30 theory hours
- 45 lab hours

### CM 1210 - Mechanical Electrical Systems and Construction

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score or department approval.

Introduces materials and equipment associated with the mechanical and electrical systems used in commercial and residential buildings.

**Note(s):**

- 30 theory hours
- 45 lab hours

### CM 1215 - Construction Equipment and Methods

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score or department approval.

Presents large equipment used to move, lift and assemble components of commercial buildings. Covers earth work, concrete forms and construction, along with steel, wood and masonry methods and productivity.

### CM 1220 - Introduction to Construction Project Management

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score or department approval.

Introduction to construction project planning and scheduling. Students will be introduced to management topics such as leadership, quality control, document control and risk management.

### **CM 1233 - Sustainable Building Practices**

**3 credit hour(s)**

**Prerequisite:** (IRW 0980 + MATH 0980 ) or appropriate placement score

This course broadly poses the question: how do we plan for, design and build a sustainable future? Beginning with an overview of the earth's climate system, building sector economics, and the social responsibilities of design and planning, students will study sustainable construction practices. Students will become familiar with current initiatives and strategies for addressing these issues. By the end of the course, students will be able to implement their knowledge using industry specific metrics to create and evaluate projects.

### **CM 1305 - Construction Estimating**

**3 credit hour(s)**

**Prerequisite:** CM 1105 + CM 1110 or department approval.

Covers cost estimates on buildings based on Construction Specifications Institute, formatted budgets, take-off techniques.

**Note(s):**

- 15 theory hours
- 90 lab hours

### **CM 2096-2996 - Special Topics**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CM 2105 - Construction Scheduling**

**3 credit hour(s)**

**Pre- or corequisite:** CM 1305 or department approval.

Introduction to techniques for transforming contract documents into project schedules, including Gantt, Pert and CPM development. Students break down a job into its basic tasks and reassemble it in a framework that controls time, work materials and related activities. During the course students will apply theory, knowledge and techniques to actual projects using computer scheduling programs.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **CM 2115 - Computerized Estimating Techniques**

**3 credit hour(s)**

**Prerequisite:** CM 1305 or department approval.

Covers various methods of computerized estimating techniques including spreadsheets, estimating software, digitized take-off and Web based plan rooms and project files. This class will utilize industry standard applications.

**Note(s):**

- 15 theory hours
- 90 lab hours

### **CM 2120 - Statics**

**3 credit hour(s)**

**Pre- or corequisite:** MATH 1310 or department approval.

Introduces the use of graphic and algebraic formulas, static forces, equilibrium, moments and stress and strain. During the course forces in beams and columns in wood, steel and concrete will be analyzed.

## **CM 2205 - Construction Layout and Land Surveying**

**3 credit hour(s)**

**Pre- or corequisite:** MATH 1310 or higher or GIS 1002 or Department approval.

Introduces basic surveying techniques including the use of automatic levels, total stations, data collectors, and survey grade GPS equipment. Topics include distance and angle measurement, traversing, topography, and construction layout.

**Note(s):**

- 15 theory hours
- 90 lab hours

## **CM 2210 - General Contractor Preparation**

**3 credit hour(s)**

This course covers licensing requirements, rules and regulations, business and law and other important aspects of owning and running a construction business.

**Note(s):** Completion of this course substitutes for the Business and Law portion of the licensing exam.

## **CM 2215 - Estimating and Bidding**

**3 credit hour(s)**

**Prerequisite:** CM 1305 + CM 2115.

Students will develop unit cost estimates and become familiar with project bidding processes. Computerized estimating software will be introduced to prepare estimates and replicate the bidding process.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **CM 2220 - Computerized Project Management and Scheduling**

**3 credit hour(s)**

**Prerequisite:** CM 2105 or department approval.

Covers various methods of computerized scheduling methods and techniques. Exposes the student to state of the art project scheduling software and project management techniques used by local industry. The student will participate in group projects and will develop real world project schedules.

**Note(s):**

- 15 theory hours
- 90 lab hours

## **CM 2230 - Building Energy Analysis**

**3 credit hour(s)**

**Prerequisite:** CM 1210

This course introduces the concepts of building energy use analysis, efficiency, management systems and industry developments related to mechanical and electrical building systems. HVAC system efficiencies, heat load variables, lighting efficiencies, management and automation, and common measurements of these systems will be introduced and practiced. Examination of plumbing systems in terms of water conservation will be discussed and analyzed using current facilities on campus.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **CM 2995 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides opportunities for the student to be employed at an approved course-related work site and applies learned theory based on goals and objectives for one term.

**Note(s):**

- The position is paid

### **CM 2997 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student and instructor to define a specific problem directly related to the program in the area of the student's interest. The student develops and executes a solution using analytical and drafting techniques. An oral presentation may be required.

### **CM 2998 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides opportunities for the student to work for one term on a cooperative basis in an appropriate defined training program.

**Note(s):**

- The position is not paid

## **Cosmetology**

### **COS 1010 - Orientation**

**2 credit hour(s)**

**Prerequisite:** AAS Mathematics Requirement + IT 1010 + ENG 1101 + Human Relations Requirement + (Humanities/Fine Arts or Social/Behavioral Science).

**Corequisite:** COS 1020 + COS 1030.

Introduces cosmetology. Presents theory in the area of professional image, first aid, work ethic, anatomy, physiology and Salon Success.

### **COS 1020 - Cosmetology Fundamentals I**

**6 credit hour(s)**

**Corequisite:** COS 1010 + COS 1030.

Introduces theory and practice; anatomy, physiology, preparation, procedures, products, infection control through sanitation, disinfection and sterilization; use of chemical agents, fumigants, UV light; hair sculpture and styling services, wigs, hair additions and hair coloring; skill development in technical procedures and applications, related chemistry problem solving, focusing on safety, client protection, consultation and client service records.

**Note(s):**

- 45 theory hours
- 135 lab hours

### **COS 1030 - Cosmetology Fundamentals II**

**6 credit hour(s)**

**Corequisite:** COS 1010 + COS 1020.

Introduces anatomy, physiology, preparation procedures, products, materials and tools used in natural and artificial nails for hands and feet, shampoo service, hair analysis, and treatments for scalp and hair, permanent waving, relaxer treatments, techniques for chemical rearranging; demonstrating skills in client consultation, recommendations, related chemistry, safety, client protection, record keeping and quality customer service.

**Note(s):**

- 45 theory hours
- 135 lab hours

### **COS 1080 - Salon Theory I**

**2 credit hour(s)**

**Prerequisite:** COS 1010 + COS 1020 + COS 1030.

**Corequisite:** COS 1092 + COS 1193.

Presents intermediate theory in haircutting, coloring, lightening, hairstyling, facials, manicuring and pedicuring, community health issues, salon safety, problem solving, special projects, and salon success.

## **COS 1092 - Hair Service Lab II**

**6 credit hour(s)**

**Corequisite:** COS 1080 + COS 1193.

Continues basic application of shampoo, rinses, scalp treatment, chemical rearranging, perm, relaxer, haircutting, coloring and styling in a supervised lab.

**Note(s):**

- 270 lab hours

## **COS 1096-1996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **COS 1097 - Independent Study**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

## **COS 1193 - Skin/Nails Service**

**3 credit hour(s)**

**Prerequisite:** COS 1010.

**Corequisite:** COS 1080 + COS 1092.

Introduces students to the theory and practice of skin and nails including: anatomy, physiology, preparation, procedures, products, facial treatments, makeup application, hair removal, eyelash/brow techniques and electro therapy. In addition, the course focuses on: client consultation, recommendations, record keeping, use of machines and appliances, application of cosmetics, massage, safety, client protection, manicuring, pedicuring, massage, advanced nail techniques, sterilization, sanitation, bacteriology, retail techniques and marketing.

**Note(s):**

- 135 lab hours

## **COS 2080 - Salon Theory II**

**1 credit hour(s)**

**Prerequisite:** COS 1080 + COS 1092 + COS 1193.

**Corequisite:** COS 2093 + COS 2492.

Presents concentration of theory in the areas of first aid, anatomy, physiology, chemistry, electro and light therapy, sterilization, sanitation, bacteriology, shampoo, rinses, scalp treatments, chemical rearranging, perms, relaxers issues, salon safety, and salon success.

## **COS 2093 - Hair Service III**

**5 credit hour(s)**

**Corequisite:** COS 2080 + COS 2492.

Presents the intermediate application of perms, relaxers, temporary, semi-permanent and permanent color, lightening, toning and special effects. Students will also learn scissors, shears, razor and clippers, products, materials and implements in cutting, wet styling, blow drying, finger waving, air waving, hair pressing, hair extensions, hair weaving, braiding, corn rowing and hair design.

**Note(s):**

- 225 lab hours

## **COS 2492 - Facials/Manicuring/Pedicuring Lab III**

**4 credit hour(s)**

**Corequisite:** COS 2080 + COS 2093.

Provides intermediate application of massage, facial treatments and makeup applications, use of electric appliances, currents and specialized machines for treatments, artificial eyelashes, removal of unwanted hair, eyelash and brow tinting and light therapy techniques in a supervised salon setting.

**Note(s):**

- 180 lab hours

### **COS 2505 - Salon Operation Theory**

**2 credit hour(s)**

**Prerequisite:** COS 2080 + COS 2093 + COS 2492.

**Corequisite:** COS 2510 + COS 2511 + COS 2592 + COS 2692.

Focuses on opening a salon and business plan, written agreements, regulations, laws, salon operation, policies, practices, personnel, compensation, payroll deductions, use of telephone, advertising, retail and sales, client communication, public relations, insurance and salon safety.

### **COS 2510 - Advanced Salon Theory**

**2 credit hour(s)**

**Corequisite:** COS 2505 + COS 2511 + COS 2592 + COS 2692.

Presents advanced theory applied to sterilization, sanitation, bacteriology, shampoo, rinses, scalp treatments, chemical rearranging, perms relaxers, hair cutting, hair coloring, bleaching, hairstyling, facials, manicuring and pedicuring, community health issues, salon safety, problem solving and special projects.

### **COS 2511 - State Laws/Regulations**

**1 credit hour(s)**

**Corequisite:** COS 2505 + COS 2510 + COS 2592 + COS 2692.

Presents state laws and regulations, professional image, employability skills, ethics, professional standards, State Board standards, job-seeking and retention skills, customer service, teamwork, problem solving and quality principles.

### **COS 2592 - Salon Operation Lab (Externship)**

**3 credit hour(s)**

**Corequisite:** COS 2505 + COS 2510 + COS 2511 + COS 2692.

Exposes student to salon business and retail sales concepts outlined in the State Board standards upon completion of 75 percent (1,243 hours) of the course of study in cooperation with a CNM-approved employer. This externship may not exceed eight hours per day or one day per week.

### **COS 2692 - Advanced Salon Lab**

**4 credit hour(s)**

**Corequisite:** COS 2505 + COS 2510 + COS 2511 + COS 2592.

Offers advanced application of safety, shampoo, rinses, scalp treatments, chemical rearranging, perms and relaxers, hair cutting, hair coloring, bleaching, hairstyling, facials, manicuring and pedicuring or other areas with minimal supervision in a salon setting.

**Note(s):**

- 135 Lab hours

## **Criminal Justice**

### **CJ 1001 - Introduction to Criminal Justice**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces the structural framework for the criminal justice system in the United States. The function, role and practices of the police, the courts and corrections will be explained and career opportunities in the administration of justice are explored.

### **CJ 1002 - Criminal Law**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.



Covers the historical development, elements and goals of common and statutory criminal laws, which control actions in the criminal justice system.

### **CJ 1007 - Criminal Procedure**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Examines the method of enforcing the substantive criminal law. Includes the process of applying the established law, constitutional law, rules of evidence, case law and an understanding of the logic used by the courts.

### **CJ 1096-1996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CJ 1502 - Juvenile Law and Procedure**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Covers the juvenile court and justice system including the Children's Code and the Rules of Procedure.

### **CJ 1509 - Introduction to Security Services**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Covers the development of security services, relationships to the legal process, career roles and operational processes in security operations. This course also helps homeowners and covers Homeland Security, report writing and emergency procedures.

### **CJ 1518 - Report Writing**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 + MATH 0970 or appropriate placement score.

Covers criminal justice reports, including writing and use of forms.

### **CJ 1580 - Patrol Practices**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces basic patrol functions, practices problems faced by law enforcement officers.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **CJ 2005 - Probation and Parole**

**3 credit hour(s)**

**Prerequisite:** CJ 1502 + CJ 1007.

Presents the history, philosophy and legal basis governing investigation and supervision of juvenile offenders and adult violators placed on probation and parole.

### **CJ 2006 - Rules of Criminal Evidence**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Covers the application of the Federal Rules of Evidence and the New Mexico Rules of evidence in a criminal case from investigation through sentencing.

## **CJ 2007 - White Collar Crimes**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Presents the criminal elements of white collar crimes and the techniques and methods to investigate these specific crimes to include computer crimes.

## **CJ 2008 - Organized Crime and Terrorism**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Covers the history of organized crime and terrorism and presents methods and practices of both. Presents current trends and the growing relationship between the two entities.

## **CJ 2009 - Management for Criminal Justice Professionals**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Presents management methods in a criminal justice environment to include law enforcement, corrections and security. Covers basic management theory, leadership, assertiveness, time management, performance evaluation, legal issues, ethics and supervision.

## **CJ 2011 - Public Policies and Strategies**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Presents issues and strategies involved in developing and implementing public policy, including problems in criminal justice, standard police operations, public security, public safety, corrections and juvenile justice.

## **CJ 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **CJ 2505 - Community-Oriented Policing**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Examines the history of policing, problems with earlier methods, re-thinking of the basic role of police and using police for problem solving, improving relations and crime prevention with the public.

## **CJ 2511 - Correctional Services**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Covers the duties and authorities of correctional officers, admission procedures, cell searches, lockdown, penal terminology, key control measures and operations, as well as court decisions dealing with corrections.

## **CJ 2512 - Juvenile Corrections**

**3 credit hour(s)**

**Prerequisite:** (IRW 0980 + MATH 0970 or appropriate placement score) + CJ 1502.

Covers juvenile probation, detention, training schools and juvenile aftercare (parole). This course will require students to work in teams that will design programs and facilities for juvenile corrections. Designs will be evaluated for their practical value in compliance with ACA standards.

## **CJ 2513 - Institutional Corrections**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

Covers the historical evolution of jails and prisons including, jurisdiction, intake, classification, security, inmate subculture, security threat groups, programs and services, supervision, pre-release and special management inmates.

### **CJ 2514 - Introduction to Homeland Security**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

This course will introduce students to the vocabulary and important components of Homeland Security. There will be discussion of the importance of the agencies associated with Homeland Security and their interrelated duties and relationships. The course will examine historical events that impact Homeland Security. The course will explore state, national, and international laws impacting Homeland Security. It will examine the most critical threats confronting Homeland Security

**Note(s):**

- Previously HLS 1110

### **CJ 2515 - Criminal Investigation**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007 + CJ 1518.

Presents basic criminal investigation from the preliminary investigation to final preparation and presentation in court.

### **CJ 2516 - Transportation and Border Security**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

This course provides an in-depth view of modern border and transportation security. Specific topics include security for seaports, ships, aircraft, trains, trucks, pipelines, buses, etc. The course focuses on the technology needed to detect terrorists and their weapons as well as discussion of legal, economic, political, and cultural aspects of the problem.

**Note(s):**

- Previously HLS 1130

### **CJ 2517 - Intelligence Analysis and Security Management**

**3 credit hour(s)**

**Prerequisite:** CJ 1002 + CJ 1007.

This course examines intelligence analysis and its indispensable relationship to the security management of terrorist attacks, man-made disasters and natural disasters. It also explores vulnerabilities of our national defense and private sectors, as well as the threats posed to these institutions by terrorists, man-made disasters, and natural disasters. Students will discuss substantive issues regarding intelligence support of homeland security measures implemented by the United States and explore how the intelligence community operates.

**Note(s):**

- Previously HLS 1120

### **CJ 2692 - Criminal Investigation Laboratory**

**1 credit hour(s)**

**Pre- or corequisite:** CJ 2515.

Introduces exercises and practical demonstrations related to the investigations of crime.

### **CJ 2695 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Employs the student at an approved program-related work site and applies learned theory based on goals and objectives.

**Note(s):**

- 135 lab hours

### **CJ 2697 - Independent Study**

**0 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

**CJ 2698 - Internship****3 credit hour(s)**

**Prerequisite:** Department approval.

Provides opportunity for student to work as a volunteer in an appropriate criminal justice division. Position is not paid.

**Note(s):**

- 135 lab hours

**CJ 2998 - Criminal Justice Capstone****3 credit hour(s)**

**Pre- or corequisite:** CJ 2505 + CJ 2511 + CJ 2515 + CJ 2692.

This course prepares the student for entry-level careers in Criminal Justice as an associate degree graduate. The focus of the course is a summative exercise wherein students will demonstrate their acquired knowledge and skills. Students will also prepare a graduation portfolio and prepare for entrance exams for various agencies based on their employment goals. The course is intended to be taken in the final term before graduation.

## Cultural Studies

**CST 1150 - Introduction to Cultural Studies****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Explores cultural constructions of differences, including but not limited to gender, race, ethnicity, social class and sexual orientation in contemporary U.S. society.

**CST 1182 - Environment, Science & Technology****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

This course examines how theoretical concepts of environment, science, and technology are bound up with everyday practices and broader understandings of nature and society (i.e, bodies, natural resources, race, gender, and sexuality). This course is interdisciplinary in its approach.

**CST 2096-2996 - Special Topics****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**CST 2260 - Popular Culture and Cultural Identity****3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Examines ways in which popular culture, from film and television to formula fiction, art and music, define and reveal cultural values.

## Culinary Arts

**CULN 1003 - Food Safety Principles****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces food code guidelines for food safety and sanitation. Emphasis is on identification and controls of biological, chemical and physical hazards. ServSafe® Food Protection Manager Certification is available.

### **CULN 1010 - Food Production Fundamentals**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1003 or CULN 1103.

Provides entry level cooking and baking techniques required for basic food operations. Basic culinary math, cooking techniques and knife skills are introduced. Safety, sanitation and kitchen operations are applied in a laboratory setting.

### **CULN 1096-1996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CULN 1100 - Introduction to Culinary Skills**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** CULN 1003 or CULN 1103 or department approval.

**Corequisite:** CULN 1110 or department approval.

Provides theoretical foundation for executing basic kitchen operations, including cooking methods, proper use of tools and equipment, knife skills, sauce, stock, and soup production, quick breads, and breakfast items in a professional environment. Introduces students to applied mathematics as it applies to recipe production, yield adjustment, food costs, and cost ratios.

### **CULN 1103 - Safety and Sanitation Principles**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces food code guidelines for food safety and sanitation. Emphasis is on identification and controls of biological, chemical and physical hazards. ServSafe® Food Protection Manager Certification is available. Hazard Analysis Critical Control Point (HACCP) based models and facility controls are introduced.

### **CULN 1110 - Culinary Skills**

**4 credit hour(s)**

**Corequisite:** CULN 1100.

Introduces students to basic culinary skills, including principles of cooking methods, knife skills, identification and proper use of tools and equipment, production of soups, stocks and sauces, quick breads, and egg cookery. Instruction focuses on applying principles of *mise en place*, sanitation, teamwork, and time management to all kitchen operations.

**Note(s):**

- 15 theory hours
- 135 lab hours

### **CULN 1112 - Intermediate Culinary Skills**

**5 credit hour(s)**

**Prerequisite:** (CULN 1100 + CULN 1110 + IT 1010) + (CULN 1003 or CULN 1103).

Introduces students to intermediate level culinary skill development, including, cheeses, meat and game fabrication and cookery; fish and shellfish fabrication and cookery, salads and dressings, sandwiches, starch and vegetable cookery, small sauce cookery, food presentation and garniture.

**Note(s):**

- 30 theory hours
- 135 lab hours

### **CULN 1130 - Introduction to Baking Fundamentals**

**5 credit hour(s)**

**Prerequisite:** (CULN 1100 + CULN 1110 + IT 1010) + (CULN 1003 or CULN 1103).

This course includes the theory, skills and techniques of baking fundamentals. Competencies include scaling, methods of mixing, processing of ingredients, ingredient functions and baking math. Topics include cookies, quick breads, pan breads, sweet yeast, cakes and decorating. Proper use of equipment and lab safety are stressed.

**Note(s):**

- 30 theory hours
- 135 lab hours

### **CULN 1132 - Applied Baking Principles**

**5 credit hour(s)**

**Pre- or corequisite:** CULN 1130 or department approval.

Students apply learned fundamentals and concepts from CULN 1130 to continue skill development. Through theory and demonstration, more difficult products and the components to complete them are covered. Topics include laminated dough, artisan bread, scratch cakes, tarts, pies, meringues, and pate a choux. Multitasking is stressed.

**Note(s):**

- 30 theory hours
- 135 lab hours

### **CULN 2020 - Entrepreneurial Food Operations**

**2 credit hour(s)**

**Prerequisite:** CULN 1010 or CULN 1110.

**Pre- or corequisite:** CULN 2292 or CULN 2492 or CULN 2692.

Introduces students to management topics required for entrepreneurial food operations. This includes marketing, social media, sales, financial analysis, point of sale options and legal, environmental health, and zoning regulations as it pertains to the food service industry.

### **CULN 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 135 hours in a new job experience in a culinary environment. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**Note(s):**

- 135 lab hours

### **CULN 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **CULN 2097 - Independent Study**

**1-10 credit hour(s)**

**Prerequisite:** Department approval.

Student work with the instructor on specific topics directly related to the course or program of study. The meeting time is arranged between the student and the instructor.

### **CULN 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 135 hours in a new job experience in a culinary environment. Students are not paid for their work but are supervised jointly by CNM and the employer.

**Note(s):**

- 135 lab hours

**CULN 2195 - Cooperative Education****1 credit hour(s)****Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 45 hours in a new job experience in a culinary environment. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**Note(s):**

- 45 lab hours

**CULN 2198 - Internship****1 credit hour(s)****Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 45 hours in a new job experience in a culinary environment. Students are not paid for their work but are supervised jointly by CNM and the employer.

**Note(s):**

- 45 lab hours

**CULN 2214 - Advanced Culinary Skills****4 credit hour(s)****Prerequisite:** CULN 1112 + [HT 1164 or (BEV 1160 + HT 1111)].**Corequisite:** CULN 2216.

Provides students with advanced instruction and practice in garde manger, charcuterie, hors d'oeuvres, presentation techniques, and back-of-the-house restaurant operations, including operating a full-service restaurant open to the public.

**CULN 2216 - Advanced Food and Beverage Service****3 credit hour(s)****Prerequisite:** CULN 1112 + [HT 1164 or (BEV 1160 + HT 1111)].**Corequisite:** CULN 2214.

Provides students with advanced instruction and practice relating to food and beverage service and front-of-the-house restaurant operations. Students will run a full-service restaurant open to the public, including managing guest relations, reservations, service techniques, and point of sale operations. Advanced instruction in beverage identification, preparation, and service will be included.

**CULN 2232 - Advanced Baking and Pastry****5 credit hour(s)****Prerequisite:** CULN 1132 or department approval.

Continues to emphasize advanced theory topic, skills and techniques of classical and contemporary pastry arts. Specialty topics will include genoise, international buttercreams, icings, sugar and chocolate decoration.

**Note(s):**

- 30 theory hours
- 135 lab hours

**CULN 2292 - Retail Baking Operations****1 credit hour(s)****Pre- or corequisite:** CULN 2020.

Introduces students to culinary and management techniques required for retail baking operations, including: safety and sanitation, menu development, marketing and sales, food preparation, financial analysis, and legal, environmental health, and zoning regulations.

**CULN 2295 - Cooperative Education****2 credit hour(s)****Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 90 hours in a new job experience in a culinary environment. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**Note(s):**

- 90 lab hours

### **CULN 2298 - Internship**

**2 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 90 hours in a new job experience in a culinary environment. Students are not paid for their work but are supervised jointly by CNM and the employer.

**Note(s):**

- 90 lab hours

### **CULN 2492 - Catering Operations**

**1 credit hour(s)**

**Pre- or corequisite:** CULN 2020.

This course provides a laboratory experience for students to practice culinary and management techniques required for catering operations, including: safety and sanitation, menu development and execution, marketing and sales, food preparation, service to the public, financial analysis, and legal, environmental health, and zoning regulations.

### **CULN 2692 - Mobile Food Operations**

**1 credit hour(s)**

**Pre- or corequisite:** CULN 2020.

This course provides a laboratory experience for students to practice culinary and management techniques required for mobile food operations, including: safety and sanitation, menu development and execution, marketing and sales, food preparation, financial analysis, and legal, environmental health, and zoning regulations.

## **Dance**

### **DANC 1127 - African Dance**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

This course is designed to introduce the student to the aesthetics of African dance technique and to develop knowledge and appreciation of its fundamental movements, music, and culture. This class will help enhance efficient use of relaxed, heavy weight, grounding, weight-shifting, release, and movement. Student will acquire facility in a movement language that reaches across linguistic and geographic boundaries. Student will gain perspective of Africa through discussion of how movement and music are used in its culture and how this may be compared to their own.

### **DANC 1169 - Flamenco Dance I**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces the basic technique and structure of flamenco dance through technique exercises, traditional steps, and choreography. Concepts such as arm and hand positions and movements, footwork, and turns will be introduced. A brief historical overview will also be taught as part of the course covered through required readings, discussion, and writing assignments.

## **Dental Assistant**

### **DA 1010 - Dental Science I**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces the student to the field of dental assisting. Focuses on the history of dentistry, prevention, anatomy, histology and physiology of the head, neck and body system as they relate to dentistry. The laboratory component will include observation of a work dental office and use of computers for employability skills.



**Note(s):**

- 30 theory hours
- 45 lab hours

**DA 1101 - Practical Application of Dental Materials****2 credit hour(s)**

**Prerequisite:** DA 1010 + ENG 1101 + COMM 2221 + department approval.

**Corequisite:** DA 1104 + DA 1107 + DA 1119 + DA 1192 + DA 1193 + DA 1292.

This course introduces students to the study of the physical and chemical properties of dental materials and their relationship to dentistry. Includes topics such as the handling and safety of dental materials, bonding techniques, preventive and bleaching materials, composites, amalgam, abrasion and polishing, cements, impression materials, gypsum products and dental waxes.

**DA 1104 - Tooth Morphology Histology and Recordings****3 credit hour(s)**

**Corequisite:** DA 1101 + DA 1107 + DA 1119 + DA 1192 + DA 1193 + DA 1292.

Presents dental terminology as it relates to tooth morphology, oral embryology, oral pathology and oral anatomy and histology, universal charting, numbering systems, cavity classification, oral diagnosis and treatment planning.

**DA 1107 - Principles and Techniques of Dental Radiology I****2 credit hour(s)**

**Corequisite:** DA 1192 + DA 1193 + DA 1292.

Provides an introduction to the study of the science of x-radiation as it pertains to dentistry. Includes topics such as radiation protection, infection control, image characteristics, dental film processing, dental x-radiation equipment, radiation physics and radiation biology.

**Note(s):**

- Students must be 18 years of age prior to entering due to federal radiation guidelines.

**DA 1119 - Fundamentals of Chairside Assisting I****2 credit hour(s)**

**Corequisite:** DA 1101 + DA 1104 + DA 1107 + DA 1192 + DA 1193 + DA 1292.

Introduction to the study of dental assisting procedures and preparation of the student for clinical assisting. Included topics: ergonomics, patient records, vital signs, delivery of dental care, disease transmission, infection control, principals and techniques of disinfection and sterilization, dental unit water lines, regulatory and advisory agencies, instrumentation, and pain management.

**DA 1192 - Practical Application of Dental Materials Lab****1 credit hour(s)**

**Corequisite:** DA 1107 + DA 1193 + DA 1292.

This course provides the application of hands on instruction for materials including: preventive and bleaching materials, composites, amalgam, abrasion and polishing, cements, impression materials, gypsum products and dental waxes. Also includes bonding techniques.

**Note(s):**

- 45 lab hours

**DA 1193 - Principals and Techniques of Dental Radiology I Lab****1 credit hour(s)**

**Corequisite:** DA 1107 + DA 1192 + DA 1292.

This course provides the application of hands on instruction in radiation protection for the operator and patient, infection control, image characteristics, dental film exposure, processing and mounting, operation and care of digital x-ray equipment.

**DA 1292 - Fundamentals of Chairside Assisting I Lab****1 credit hour(s)**

**Corequisite:** DA 1107 + DA 1192 + DA 1193.

This course provides the clinical application of hands-on instruction in the use and sterilization of all dental instruments and basic fundamentals of chairside assisting. Subject areas are arranged in a clinical competency program, which is a method of study that helps the student master each skill before advancing to the next level.

## **DA 1512 - Dental Science II**

**3 credit hour(s)**

**Prerequisite:** DA 1101 + DA 1104 + DA 1107 + DA 1119 + DA 1192 + DA 1193 + DA 1292.

**Corequisite:** DA 1517 + DA 1519 + DA 1590 + DA 1592 + DA 1593.

Presents microbiology as it relates to control of infection and disease in dental environments and teaches oral pathology nutrition and pharmacology as they relate to dentistry. Also included are applied psychology and communication skills with dental patients and co-workers.

## **DA 1517 - Principles and Techniques of Dental Radiology II**

**2 credit hour(s)**

**Corequisite:** DA 1512 + DA 1519 + DA 1592 + DA 1590 + DA 1593.

This course builds on the comparison and contrast between the bisecting and paralleling techniques used for exposing intra oral radiographic films. Topics to be covered include paralleling technique, bitewing technique, introduction to radiographic examination, bisecting technique, occlusal and localization technique, digital radiography, normal anatomy, and identification of restorations in a radiograph.

## **DA 1519 - Fundamentals of Chairside Assisting II**

**2 credit hour(s)**

**Corequisite:** DA 1512 + DA 1517 + DA 1590 + DA 1592 + DA 1593.

Topics to be discussed include general dentistry, moisture control, matrix systems, restorative procedures, provisional coverage, coronal polishing, dental sealants, medically and physically compromised patients, assisting in a medical emergency, dental ethics and the law.

## **DA 1590 - Clinical Experience I**

**6 credit hour(s)**

**Corequisite:** DA 1512 + DA 1517 + DA 1519 + DA 1592 + DA 1593.

Introduces clinical practice through student preceptorships utilizing four-handed dentistry at chair-side including extended function in general dentistry delegated to the DA as designated by the New Mexico Dental Practice Act (coronal polishing, fluoride application).

**Note(s):**

- 15 theory hours
- 225 clinical hours

## **DA 1592 - Fundamentals of Chairside Assisting II Lab**

**1 credit hour(s)**

**Corequisite:** DA 1512 + DA 1517 + DA 1519 + DA 1590 + DA 1593. This course provides the application of principles with hands on instruction in chair-side instrumentation, techniques and patient management. Includes laboratory practice of provisional coverage, coronal polishing, fluoride application and pit and fissure sealant application.

**Note(s):**

- 45 lab hours

## **DA 1593 - Principles and Techniques of Dental Radiology II Lab**

**1 credit hour(s)**

**Corequisite:** DA 1512 + DA 1517 + DA 1519 + DA 1590 + DA 1592.

This course provides the application of principals with hands on instruction in bisecting and paralleling techniques used during exposure of intra oral radiographic films. Instruction will include occlusal and localization technique, digital radiography, identification of anatomical landmarks, and identification of restorations in a radiograph. Students will expose radiographs on human subjects.

**Note(s):**

- 45 lab hours

## **DA 2090 - Clinical Experience II**

**5 credit hour(s)**

**Prerequisite:** DA 1512 + DA 1517 + DA 1519 + DA 1590 + DA 1592 + DA 1593.

**Corequisite:** DA 2408 + DA 2492 + DA 2513 + DA 2593.

Provides student clinical practice in dental offices to utilize four-handed techniques in expanded functions and dental specialties. This course further prepares the student to take the National Dental Assistant exam and the New Mexico State exam.

**Note(s):**

- 15 theory hours
- 180 clinical hours

**DA 2096-2996 - Special Topics****1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**DA 2408 - Dental Administration and Communication****1 credit hour(s)**

**Corequisite:** DA 2090 + DA 2492 + DA 2513 + DA 2593.

This course provides basic skills and background in various aspects of dental reception functions and office management procedures. Topics to be discussed include telecommunications, appointment management systems, inventory systems and supply ordering, insurance, bookkeeping and planning and managing a career path.

**DA 2492 - Dental Administration and Communications Lab****1 credit hour(s)**

**Corequisite:** DA 2090 + DA 2408 + DA 2513 + DA 2593. This course puts information into practice using computerized software to mimic everyday tasks completed in a dental business office. Students will complete learning activities in a computer lab including various letter writing, treatment plans and sequencing appointments, creating a supply list, dental insurance claim forms, check writing, and creating a resume.

**Note(s):**

- 45 lab hours

**DA 2510 - DANB Preparation****2 credit hour(s)**

**Corequisite:** DA 2090 + DA 2408 + DA 2492 + DA 2513 + DA 2593. This course is designed to help students review for their DANB CDA Examination and is intended for students who are nearing the completion of a Dental Assisting program. Students will utilize their textbook and online resources to successfully complete this course.

**DA 2513 - Introduction to Dental Specialties****2 credit hour(s)**

**Corequisite:** DA 2090 + DA 2408 + DA 2492 + DA 2593. This course introduces the field of dental specialties as well as discussion of tasks that can be legally performed by a dental assistant while providing supportive treatment in a dental specialty office. Topics include: endodontics, oral surgery, periodontics, pediatrics, implants, and orthodontics.

**DA 2593 - Introduction to Dental Specialties Lab****1 credit hour(s)**

**Corequisite:** DA 2090 + DA 2408 + DA 2492 + DA 2513. This course provides the application of principles with hands on instruction of selective dental assisting tasks that can be legally performed while providing supportive treatment in dental specialty offices.

**Note(s):**

- 45 lab hours

**Diagnostic Medical Sonography**

## **DMS 1096-1996 - Special Topics**

### **1-6 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **DMS 1115 - Sonographic Cross Sectional Anatomy**

### **2 credit hour(s)**

**Prerequisite:** BIO 2210 + BIO 2310 + ENG 1101 + HLTH 1040 + Human Relations Requirement + IT 1010 + MATH 1315 + PHYS 1510 + department approval.

**Corequisite:** DMS 1120 + DMS 1125 + DMS 1130 + DMS 1193.

A study of sectional anatomy of the transverse, longitudinal, and coronal planes are included with an emphasis on the organs of sonographic interest. Correlation with other imaging procedures will be emphasized.

## **DMS 1120 - Abdominal Sonography**

### **3 credit hour(s)**

**Corequisite:** DMS 1115 + DMS 1125 + DMS 1130 + DMS 1193.

Emphasis is placed on recognizing the anatomy, physiology and pathology of the peritoneal organs, prevertebral vessels, non-cardiac chest and abdominal wall. Laboratory tests, signs and symptoms of disease of the peritoneal abdominal organs will be discussed. Scanning techniques and protocols will be included.

## **DMS 1125 - Gynecological Sonography**

### **2 credit hour(s)**

**Corequisite:** DMS 1115 + DMS 1120 + DMS 1130 + DMS 1193.

Emphasis is placed on recognizing gynecological anatomy, physiology and pathology. Laboratory tests, signs and symptoms of gynecologic disease will be discussed. Scanning techniques and protocols will be included.

## **DMS 1130 - Sonographic Physics I**

### **2 credit hour(s)**

**Corequisite:** DMS 1115 + DMS 1120 + DMS 1125 + DMS 1193.

Introduces the basic principles of acoustical physics, sound production propagation, interactive properties of ultrasound with human tissues, ultrasound instrument operation, transducer selection, transducer parameters, control options, hemodynamics and Doppler principles and acoustic artifacts.

## **DMS 1193 - Sonographics Concepts Lab I**

### **2 credit hour(s)**

**Corequisite:** DMS 1115 + DMS 1120 + DMS 1125 + DMS 1130.

Basic general and vascular sonographic concepts and anatomy lab. Laboratory sessions will introduce students to basic scanning techniques, sonographic anatomy and imaging protocols.

#### **Note(s):**

- 90 lab hours

## **DMS 1520 - Sonography of the Breast, Superficial and Retroperitoneal Structures**

### **2 credit hour(s)**

**Prerequisite:** DMS 1115 + DMS 1120 + DMS 1125 + DMS 1130 + DMS 1193.

**Corequisite:** DMS 1525 + DMS 1530 + DMS 1590 + DMS 1593.

Emphasis is placed on recognizing the anatomy, physiology and pathology of the breast, musculoskeletal system, superficial and retroperitoneal structures as applied to sonographic imaging.

## **DMS 1525 - Obstetrical Sonography**

### **2 credit hour(s)**

**Corequisite:** DMS 1520 + DMS 1530 + DMS 1590 + DMS 1593. Emphasis is placed on recognizing obstetrical anatomy, physiology and pathology. Laboratory tests, signs and symptoms of obstetrical and fetal disease will be discussed. Scanning techniques and

protocols will be included

## **DMS 1530 - Sonographic Physics II**

**2 credit hour(s)**

**Corequisite:** DMS 1520 + DMS 1525 + DMS 1590 + DMS 1593. Presents advanced transducer parameters and functions, detail resolution, imaging instrumentation and advanced physics and principles of Doppler techniques and flow analysis.

## **DMS 1590 - Clinical Sonography I**

**4 credit hour(s)**

**Corequisite:** DMS 1520 + DMS 1525 + DMS 1530 + DMS 1593. Supervised clinical experience in area hospitals and health care facilities to develop the student's general ultrasonic skills in a diagnostic environment. May include vascular sonography opportunities.

**Note(s):**

- 240 clinical intensive hours

## **DMS 1593 - Sonographic Concepts Lab II**

**1 credit hour(s)**

**Corequisite:** DMS 1520 + DMS 1525 + DMS 1530 + DMS 1590.

Intermediate general and vascular sonographic concepts and anatomy lab. Laboratory sessions will build upon student's clinical experience of scanning techniques, sonographic anatomy and imaging protocols. Intermediate proficiency levels toward image acquisition, implementing technical quality and imaging protocols.

**Note(s):**

- 45 lab hours

## **DMS 2020 - Fetal Echo, Neonatal and Pediatric Sonography**

**3 credit hour(s)**

**Prerequisite:** DMS 1520 + DMS 1525 + DMS 1530 + DMS 1590 + DMS 1593.

**Corequisite:** DMS 2030 + DMS 2090 + DMS 2093.

This course will discuss congenital heart disease with emphasis on diagnosis during the fetal stage, neonatal neurosonography, and application of sonography specific to the pediatric population. Topics will include, but not limited to, embryology, anomalous development and sonographic appearances of normal and pathological conditions of the fetal heart, fetal brain, neonatal brain, spine, congenital hip dysplasia, and pyloric stenosis.

## **DMS 2030 - Sonographic Physics III**

**1 credit hour(s)**

**Corequisite:** DMS 2020 + DMS 2090 + DMS 2093. Presents possible biologic effects, advanced equipment types, instrumentation, quality control procedures and recent emerging technologies in sonography, research statistics and design.

## **DMS 2090 - Clinical Sonography II**

**4 credit hour(s)**

**Corequisite:** DMS 2020 + DMS 2030 + DMS 2093. Supervised clinical experience in area hospitals and health care facilities to develop the student's general ultrasonic skills in a diagnostic environment. May include vascular sonography opportunities.

**Note(s):**

- 240 clinical intensive hours

## **DMS 2093 - Sonographics Concepts Lab III**

**1 credit hour(s)**

**Corequisite:** DMS 2020 + DMS 2030 + DMS 2090.

Advanced general and vascular sonographic concepts and anatomy lab. Laboratory sessions will build upon student's clinical experience of scanning techniques, sonographic anatomy and imaging protocols. Advanced proficiency levels toward image acquisition, implementing technical quality, imaging protocols, interpretation and case analysis with an emphasis on the advanced practice sonographer.

**Note(s):**

- 45 lab hours

## **DMS 2110 - Vascular Sonography**

**3 credit hour(s)**

**Prerequisite:** DMS 2020 + DMS 2030 + DMS 2090 + DMS 2093.

**Corequisite:** DMS 2193 + DMS 2290.

Course includes arterial and venous anatomy, vascular anatomy, vascular imaging protocols, basic scanning techniques, and transducer manipulation. B-Mode imaging, color flow image interpretation, and spectral Doppler waveform analysis will be discussed. Vascular disease and its effect on blood flow will be covered.

## **DMS 2193 - Vascular Concepts Lab**

**1 credit hour(s)**

**Corequisite:** DMS 2110 + DMS 2290.

Focused vascular sonographic concepts and anatomy lab. Laboratory sessions will include normal and pathologic arterial and venous anatomy, vascular imaging protocols, scanning techniques, and transducer manipulation. B-Mode imaging, color flow image interpretation, and spectral Doppler waveform analysis will be practiced.

**Note(s):**

- 45 lab hours

## **DMS 2290 - Clinical Sonography III**

**4 credit hour(s)**

**Corequisite:** DMS 2110 + DMS 2193. Supervised clinical experience in area hospitals and health care facilities to develop the student's ultrasonic skills in a diagnostic environment. May include vascular sonography opportunities.

**Note(s):**

- 240 clinical intensive hours

## **DMS 2490 - Vascular Clinical**

**1 credit hour(s)**

**Prerequisite:** DMS 2110 + DMS 2193 + DMS 2290.

**Corequisite:** DMS 2690 + DMS 2999.

Supervised clinical experience in area hospitals and health care facilities to develop the student's vascular ultrasonic skills in a diagnostic environment.

**Note(s):**

- 60 clinical intensive hours

DMS 2690 - Clinical Sonography IV

**4 credit hour(s)**

**Corequisite:** DMS 2490 + DMS 2999.

Supervised clinical experience in area hospitals and health care facilities to develop the student's ultrasonic skills in a diagnostic environment.

**Note(s):**

- 240 clinical intensive hours

## **DMS 2999 - Registry Review**

**2 credit hour(s)**

**Corequisite:** DMS 2490 + DMS 2690.

This course will prepare the student for selected ARDMS registry exams.

## **Diesel Equipment Technology**

### **DETC 1110 - Introduction to Diesel Equipment**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Introduces theory of operation and basic service procedures for heavy equipment/heavy duty truck powertrain and chassis systems.

Includes general industry orientation, shop/vehicle safety, tool care and use and repair information retrieval.

**Note(s):**

- 30 theory hours
- 75 lab hours

**DETC 1111 - Introduction to Diesel Equipment Theory**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Corequisite:** DETC 1192.

Introduces theory of operation for heavy equipment/heavy duty truck powertrain and chassis systems. Includes general industry orientation, shop/vehicle safety, tool identification and care repair information retrieval.

**DETC 1120 - Heavy Duty Brake Systems**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** DETC 1110 or department approval.

Introduces the principles of hydraulic and air brake operation and design. Develops skills in the diagnosis and repair of standard and anti-lock brake systems.

**Note(s):**

- 30 theory hours
- 90 lab hours

**DETC 1121 - M/HD Brake Systems Theory**

**2 credit hour(s)**

**Pre- or corequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492  
**Corequisite:** DETC 1292  
Introduces the principles of hydraulic and air brake mechanical, pneumatic and electronic operation and design.

**DETC 1130 - Heavy Duty Suspension and Steering**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** DETC 1110 or department approval.

Presents theory, repair and service on a variety of heavy suspension and steering systems. Includes steering gear repair, power steering systems, kingpin service, air suspension systems and steering and axle alignment.

**Note(s):**

- 30 theory hours
- 90 lab hours

**DETC 1131 - M/HD Suspension and Steering Theory**

**2 credit hour(s)**

**Pre- or corequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492  
**Corequisite:** DETC 1392  
Presents theory of operation on a variety of medium/heavy duty suspension and steering systems. Includes manual and power steering systems, wheel end location, air and electronic suspension systems and steering and axle alignment.

**DETC 1140 - Manual Shift Transmissions and Axles**

**3 credit hour(s)**

**Pre- or corequisite:** DETC 1110 or department approval.

Introduces the principles of operation and design for a variety of single- and twin-countershaft transmissions, clutches, drive axles and drive lines. Develops skills in the diagnosis, service and repair of drivetrain components.

**Note(s):**

- 30 theory hours
- 75 lab hours

## **DETC 1141 - Diesel Equipment Electrical Systems Theory**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** DETC 1111 + DETC 1192.

**Corequisite:** DETC 1492.

Presents the theory of electrical systems. Applies electrical theory to battery, charging, engine cranking and vehicle lighting systems. Introduces electrical diagnostic process and reading/interpreting electrical schematic diagrams.

## **DETC 1150 - Diesel Equipment Electrical Systems**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** DETC 1110 or department approval.

Presents critical skills necessary for identifying and correcting problems found in diesel equipment electrical/ electronic systems. Includes operating theories and principles, DVOM and analog meter use, voltage drop testing, wiring schematic interpretation and electrical troubleshooting procedures.

### **Note(s):**

- 30 theory hours
- 90 lab hours

## **DETC 1151 - Fixed Power Systems Theory**

**1 credit hour(s)**

**Pre- or corequisite:** DETC 1141 + DETC 1492  
**Corequisite:** DETC 1592  
Presents the theory of operation and unique safety concerns relating to fixed power installations that utilize diesel engines as a power source. Includes discussions on generators sets and a variety of off-highway equipment.

## **DETC 1192 - Introduction to Diesel Equipment Lab**

**1 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Corequisite:** DETC 1111.

Provides practical instruction on basic service procedures for heavy equipment/heavy duty truck powertrain and chassis systems. Includes orientation to working safely on and around heavy equipment and tool use.

## **DETC 1193 - M/HD Engine Repair Lab**

**2 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192  
**Corequisite:** DETC 1211  
Provides practical instruction and develops skills in diesel engine mechanical diagnosis and overhaul. Includes engine/component testing and identification of needed repairs.

## **DETC 1210 - Heavy Duty Engine Repair**

**4 credit hour(s)**

**Prerequisite:** DETC 1110 or department approval.

Presents internal combustion engine theory, engine components and designs, engine overhaul procedures and precision measurement. Includes essential engine testing and identification of needed repairs.

### **Note(s):**

- 30 theory hours
- 90 lab hours

## **DETC 1211 - M/HD Engine Repair Theory**

**2 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192  
**Corequisite:** DETC 1193  
Presents internal combustion engine theory with emphasis on engine components and designs, engine overhaul procedures and precision measurement.

## **DETC 1220 - Automatic Transmissions and Hydraulics**

**4 credit hour(s)**

**Prerequisite:** DETC 1110 or department approval.



Presents the principles of operation of heavy-duty automatic transmissions and hydraulic systems. Develops skills in the service, diagnosis and repair of automatic transmissions, hydraulic pumps, valves, actuators and controls.

**Note(s):**

- 30 theory hours
- 90 lab hours

**DETC 1221 - M/HD Automatic Transmission Theory**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1293 Presents the principles of operation of heavy-duty automatic transmissions.

**DETC 1225 - Hydraulics Theory**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192 **Corequisite:** DETC 1393 Presents the principles of safe operation, hydraulic schematic diagrams, and applications of hydraulic systems.

**DETC 1230 - Medium/Heavy Duty Air Conditioning and Heating**

**2 credit hour(s)**

**Prerequisite:** DETC 1150 or department approval.

Covers testing, evacuating and charging air conditioning systems while maintaining an awareness of potential environmental concerns caused by medium/heavy equipment refrigerants. Addresses cooling and heating diagnosis, climate control trouble shooting and component repair.

**Note(s):**

- 15 theory hours
- 75 lab hours

**DETC 1231 - M/HD Heating, Ventilation and Air Conditioning Theory**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1493 Presents the principles of heating, ventilation and heating theory. Discusses legal requirements and environmental hazards associated with mobile and commercial refrigeration equipment.

**DETC 1240 - Electronic Systems**

**3 credit hour(s)**

**Prerequisite:** DETC 1110 + DETC 1150 or department approval.

Builds on skills developed in DETC 1150.

Covers testing and diagnostic procedures in more complex diesel equipment systems. Includes lighting circuits, body computers and sensors, electronic control modules, use of lab scopes and scan tools.

**Note(s):**

- 30 theory hours
- 75 lab hours

**DETC 1241 - M/HD Electronic Systems Theory**

**2 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1593 Builds on knowledge acquired in DETC 1141.

Presents testing and diagnostic procedures in more complex diesel equipment systems. Includes lighting circuits, on board networking, body computers and sensors, electronic control modules, use of lab scopes and scan tools.

**DETC 1250 - Diesel Power and the Environment**

**2 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192.

**Pre- or corequisite:** DETC 1241 + DETC 1593. Seminar that explores the past, present and future environmental impacts associated

with diesel engines as a source of power. Examines combustion control, aftertreatment, and alternatives to diesel fuel.

### **DETC 1292 - M/HD Brake Systems Lab**

**2 credit hour(s)**

**Pre- or corequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1121 Provides practical instruction and develops skills in the diagnosis, service and repair of hydraulic and air brake mechanical, pneumatic and electronic braking systems.

### **DETC 1293 - M/HD Automatic Transmission Lab**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1221 Provides practical instruction and develops skills in the service, diagnosis and repair of heavy-duty automatic transmissions.

### **DETC 1392 - M/HD Suspension and Steering Lab**

**1 credit hour(s)**

**Pre- or corequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1131 Provides practical instruction and develops skills in the diagnosis, service and repair of modern medium/heavy duty mechanical and electronic suspension and stability control systems.

**Note(s):**

- 60 lab hours

### **DETC 1393 - Hydraulics Lab**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192 **Corequisite:** DETC 1225 Provides practical instruction and develops skills in the service, diagnosis and repair of hydraulic pumps, valves actuators and controls. Hydraulic line and fitting selection and fabrication are included.

### **DETC 1492 - Diesel Equipment Electrical Systems Lab**

**2 credit hour(s)**

**Pre- or corequisite:** DETC 1111 + DETC 1192.

**Corequisite:** DETC 1141.

Provides practical instruction and develops skills in the diagnosis and repair of diesel equipment electrical systems. Includes DVOM and analog meter use, voltage drop testing, wiring schematic interpretation and electrical troubleshooting procedures.

### **DETC 1493 - M/HD Heating, Ventilation and Air Conditioning Lab**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1231 Provides practical instruction and develops skills in testing, evacuating and charging air conditioning systems while maintaining an awareness of potential environmental concerns. Addresses HVAC system diagnosis, trouble shooting and component repair.

### **DETC 1592 - Fixed Power Systems Lab**

**1 credit hour(s)**

**Pre- or corequisite:** DETC 1141 + DETC 1492 **Corequisite:** DETC 1151 Provides practical instruction and develops skills in safely working around and on diesel powered fixed power equipment.

### **DETC 1593 - M/HD Electronic Systems Lab**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1141 + DETC 1192 + DETC 1492 **Corequisite:** DETC 1241 Builds on skills developed in DETC 1492.

Provides practical instruction and develops skills in diagnosis and repair of more complex electronic systems. Includes interpretation of scan tool and DVOM data to isolate and repair the root cause of electronic concerns.

### **DETC 2096-2996 - Special Topics**

**1-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **DETC 2097 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student and instructor to define a specific problem in the area of the student's interest and directly related to the program. Then student develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

## **DETC 2110 - Preventive Maintenance**

**4 credit hour(s)**

Presents theory and application of basic preventive maintenance operations. Includes under-vehicle and under-hood service procedures, repair information retrieval and proper use and care of service equipment.

**Note(s):**

- 30 theory hours
- 90 lab hours

## **DETC 2111 - Preventive Maintenance Theory**

**1 credit hour(s)**

**Prerequisite:** DETC 1241 + DETC 1593**Corequisite:** DETC 2194Presents the concepts, legal foundation, and record keeping requirements for a preventive maintenance program in a fleet environment.

## **DETC 2120 - Diesel Engine Performance**

**4 credit hour(s)**

**Prerequisite:** DETC 1240 or department approval.

Presents theory of operation of diesel fuel injection and electronic engine management systems. Includes service, diagnosis and repair of a variety of systems found on modern heavy-duty diesel engines.

**Note(s):**

- 30 theory hours
- 90 lab hours

## **DETC 2121 - Diesel Engine Performance Theory**

**2 credit hour(s)**

**Prerequisite:** DETC 1241 + DETC 1593**Corequisite:** DETC 2294Presents theory of operation of diesel fuel injection and electronic engine management, and emissions control systems.

## **DETC 2131 - Manual Shift Transmissions and Drivelines Theory**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192**Corequisite:** DETC 2394Presents the principles of operation and design of single and twin countershaft manual gear boxes and power transmission via drivelines.

## **DETC 2135 - Automated Manual Transmissions and Clutches Theory**

**1 credit hour(s)**

**Prerequisite:** DETC 1241 + DETC 1593**Corequisite:** DETC 2494Presents the principles of operation and design of automated manual shift transmissions used in on-highway tractors, including two and three pedal systems. Presents manual and automated clutches.

## **DETC 2194 - Preventive Maintenance Lab**

**3 credit hour(s)**

**Prerequisite:** DETC 1241 + DETC 1593**Corequisite:** DETC 2111In a road service environment, provides practical instruction and develops skills in the maintenance, inspection, service and repair of on highway diesel powered equipment.

## **DETC 2197 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

## **DETC 2198 - Diesel Equipment Internship**

**1 credit hour(s)**

**Pre- or corequisite:** (DETC 2121 + DETC 2294) or department approval.

Students will identify a diesel equipment repair facility, apply for an internship position, and complete a forty hour (one work week) internship. Provides real world shop experience during the student's last term in the certificate program.

**Note(s):**

- 45 lab hours

## **DETC 2294 - Diesel Engine Performance Lab**

**2 credit hour(s)**

**Prerequisite:** DETC 1241 + DETC 1593**Corequisite:** DETC 2121Provides practical instruction and develops skills in the use of diagnostic equipment to determine needed maintenance, service and repair of fuel injection, engine management and emission control systems.

## **DETC 2297 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

## **DETC 2394 - Manual Shift Transmissions and Drivelines Lab**

**1 credit hour(s)**

**Prerequisite:** DETC 1111 + DETC 1192**Corequisite:** DETC 2131Provides practical instruction and develops skills in the maintenance, service, repair and overhaul of single and twin countershift manual transmissions and drivelines.

## **DETC 2494 - Automated Manual Transmissions and Clutches Lab**

**1 credit hour(s)**

**Prerequisite:** DETC 1241 + DETC 1593**Corequisite:** DETC 2135Provides practical instruction and develops skills in the maintenance, service, repair and overhaul of automated manual transmissions and manual and automated clutches.

# **Early Childhood Multicultural Education**

## **ECME 1102 - Professionalism**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Provides a broad-based orientation to the field of early care and education. Introduces early childhood education history, philosophy, ethics and advocacy as well as exploration of basic early childhood systems. Examines professional responsibilities.

## **ECME 1104 - Child Growth Development and Learning**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Presents growth, development and learning of young children, prenatal through age eight. Provides students with theoretical and practical knowledge of how young children grow, develop and learn as well as an understanding of the adult's role in supporting these factors.

## **ECME 1108 - Health Safety and Nutrition**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

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. Examines nutritional factors important to children's total development.

## **ECME 1109 - Curriculum Development through Play**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Pre- or corequisite:** ECME 1104.

**Corequisite:** ECME 1190.

This curriculum course focuses on developmentally appropriate content in early childhood programs. It addresses content that is relevant for children birth through age four and developmentally appropriate ways of integrating content into teaching and learning experiences.

### **ECME 1190 - Curriculum Development Through Play Practicum**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Pre- or corequisite:** ECME 1104.

**Corequisite:** ECME 1109.

Provides opportunities for students to apply knowledge gained from ECME 1109 in a practicum setting. (45 hours per term) Students must pass a background check to successfully complete the course requirements.

**Note(s):**

- 15 theory hours
- 45 lab hours
- Typically offered in Fall and Spring Terms

### **ECME 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ECME 2201 - Introduction to Language, Literacy and Reading**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** ECME 1104. 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.

### **ECME 2204 - Assessment of Children and Evaluation of Programs**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** ECME 1104. Focuses on appropriate programming and assessment of typical and atypical young children, the role of parents in designing programs, the role of assessment in designing programs, the role of assessment in designing curricula and the role of language and culture in assessment.

### **ECME 2206 - Family and Community Collaboration**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** ECME 1104. Examines the involvement of families from diverse cultural and linguistic backgrounds in early childhood programs. Discusses establishing collaborative relationships with parents and all involved in child's life and strategies for communication.

### **ECME 2212 - Curriculum Development and Implementation: Age 3-Grade 3**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** ECME 1104.

**Corequisite:** ECME 2290.

This course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Emphasizes development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health, science, and social skills.

**Note(s):**

- Typically offered in Fall and Spring Terms

**ECME 2214 - Guiding Young Children**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** ECME 1104. Explores various theories of child guidance and the practical application of each. Provides developmentally appropriate methods for guiding children and for facilitating positive social interactions.

**ECME 2220 - Program Management**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Emphasizes the technical knowledge necessary to develop and maintain an effective early care and education program. Focuses on sound financial management and vision, the laws and legal issues that affect programs and state and national standards such as accreditation.

**ECME 2222 - Effective Program Development for Diverse Learners and their Families**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** ECME 1104.

**Corequisite:** ECME 2490.

Addresses the role of a director/administrator in the implementation of family-centered programming that includes individually appropriate and culturally responsive curriculum in a healthy and safe learning environment for all children and their families.

**ECME 2224 - Professional Relationships**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Corequisite:** ECME 2590.

Addresses staff relationships that will foster diverse professional relationship with families, communities and boards. Topics of staff recruitment, retention, support and supervision will lay the foundation for positive personnel, family and community relationships.

**ECME 2230 - Infant Toddler Growth and Development (Prenatal to 3)**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Corequisite:** ECME 2690.

Provides both basic knowledge of typically and atypically developing young children from the prenatal period to 36 months and a foundational understanding for the promotion of the health, well-being and development of all infants and toddlers within the context of family, community and cultural environments. Students must complete the practicum hours in ECME 2690 to pass this course.

**ECME 2232 - Relationships and Reflective Practice in Infant Family Studies**

**3 credit hour(s)**

**Prerequisite:** (IRW 0980 or appropriate placement score) + ECME 2230 + ECME 2690.

**Corequisite:** ECME 2790.

This course is intended to develop a philosophical and ethical base for the Family, Infant, Toddler (FIT) entry-level practitioner. Students will develop professional skills in advocacy, policy, family and collegial relationship-building, and reflective practice. Students are required to complete a field experience of 45 hours. Students must complete the practicum hours in ECME 2790 to pass this course.

**ECME 2234 - Effective Principles and Practices in Infant Family Studies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score. This course is intended to assist students in developing strong nurturing relationships with infants/toddlers in partnership with caregivers. Students will gain an understanding of how children learn in the context of the relationship with their primary caregivers, how to meet the needs of very young children (birth to three years of age) in a variety of care giving settings, and how to meet the needs of adults who are addressing the needs of very young children and their families, through relationship-based practices.

**ECME 2290 - Curriculum Development and Implementation: Age 3-Grade 3 Practicum**

**2 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Corequisite:** ECME 2212.

Provides opportunities for students to apply knowledge gained from ECME 2212 in a practicum setting. Students must pass a background check to successfully complete the course requirements.

**Note(s):**

- 15 theory hours
- 45 lab hours
- Typically offered in Fall and Spring Terms

**ECME 2490 - Effective Program Development for Diverse Learners and their Families Practicum****2 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Corequisite:** ECME 2222.

Provides opportunities for students to apply knowledge gained from ECME 2222 in a practicum setting. Students must pass a background check to successfully complete the course requirements.

**Note(s):**

- 15 theory hours
- 45 lab hours

**ECME 2590 - Professional Relationships Practicum****2 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Corequisite:** ECME 2224.

Provides opportunities for students to apply knowledge gained from ECME 2224 in a practicum setting. Students must pass a background check to successfully complete the course requirements. Students are required to complete a practicum of 45 hours.

**Note(s):**

- 15 theory hours
- 45 practicum hours

**ECME 2690 - Infant Toddler Growth and Development Practicum****2 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Corequisite:** ECME 2230.

Provides application of knowledge gained from ECME 2230. Students must pass a background check to successfully complete the course requirements. Students are required to complete a practicum of 45 hours.

**Note(s):**

- 15 theory hours
- 45 practicum hours

**ECME 2790 - Relationships and Reflective Practice in Infant Family Studies Practicum****2 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Corequisite:** ECME 2232.

Provides application of knowledge gained from ECME 2232.

Students must pass a background check to successfully complete the course requirements. Students are required to complete a practicum of 45 hours.

**Note(s):**

- 15 theory hours
- 45 practicum hours

# Earth and Planetary Science

## EPS 1096-1996 - Special Topics

**1-6 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## EPS 1101 - Introduction to Geology

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** EPS 1192.\*

In this physical geology course, students will learn about the materials (rocks and minerals) that make up Earth and the processes that drive and shape our planet: how mountains are formed, how volcanoes erupt, and how water, wind, and ice can shape the landscape. This course will explore the Earth's 4.6 billion year history. EPS 1101 serves as an introduction to the geological sciences and is a prerequisite for advanced study in geology.

\* It is recommended that students take EPS 1192 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## EPS 1192 - Introduction to Geology Laboratory

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** EPS 1101.

Introduction to Geology Laboratory is the lab component of EPS 1101 - Introduction to Geology. In this hands-on course, students will learn to identify samples of rocks and minerals, work with aerial photographs, topographic maps and geological maps, and participate in a field trip that ties many of the lab activities together.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## EPS 1211 - Dinosaurs

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course is a survey of the fossil record, evolution, paleobiology and extinction of dinosaurs and the other animals with which they shared the Earth.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## EPS 2201 - Earth History

**3 credit hour(s)**

**Prerequisite:** EPS 1101 + EPS 1192.

**Recommended:** EPS 2292.\*

This course reviews the geological and biological processes that have operated on Earth for the last 4.6 billion years. Topics include the dating of rocks, the changing configuration of oceans and continents as a result of plate tectonics, records of climate change, and the history of the formation and erosion of mountain chains. Earth History explores the processes that produce sedimentary rocks and preserve fossils, as well as key concepts related to the diversity of life, evolution, and the fossil record.

\* It is recommended that students take EPS 2292 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

## EPS 2250 - The Geology of New Mexico



### 3 credit hour(s)

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** EPS 1101.\*

The Geology of New Mexico is a tour through time and space in our magnificent state. In this course, students will learn about the materials (rocks and minerals) that make up New Mexico and the processes that drive and shape our state. Students will learn how our numerous and varied mountains formed, how and where volcanoes have erupted, where natural resources are found and exploited, how water, wind and ice can shape the landscape, and about New Mexico's rich dinosaur heritage.

\*It is recommended that students take EPS 1101 prior to taking EPS 2250 since a familiarity with the basic concepts and principles of geology will be beneficial for students in this course.

#### **Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **EPS 2292 - Earth History Laboratory**

#### **1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** EPS 2201.

This laboratory course works in concert with EPS 2201 to review the geological and biological processes that have operated on Earth for the last 4.6 billion years. Through lab exercises, students will explore key concepts of geologic time and stratigraphy, gain a thorough introduction to fossils, the fossil record and the basic methods of paleontology, and learn the skills needed to analyze and interpret geologic maps. Field trips will enhance understanding of how Earth history is interpreted from the geologic rock record.

#### **Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

## **Economics**

### **ECON 1101 - Introduction to Economics**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces the theories, history and relationships of economics.

### **ECON 2096-2996 - Special Topics**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ECON 2200 - Macroeconomics**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score + any 1000 or 2000 MATH course or Math Skill Set 4. Surveys theories and problems of economic policy, including the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

### **ECON 2201 - Microeconomics**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score + any 1000 or 2000 MATH course or Math Skill Set 4.

Emphasizes laws of demand and supply and the workings of price systems in a free market. Applies basic economic theories to problems of production, monopoly, taxation, consumer welfare and the environment.

### **ECON 2203 - Society and the Environment**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score + any 1000 or 2000 MATH course or Math Skill Set 4.

Introduces students to environmental and natural resource issues of both global and local scale. No prior economics coursework is required; basic economic tools will be introduced and then applied to a variety of environmental problems. This course will cover a variety of topics, including water & energy conservation, pollution taxes, tradable pollution permits and global warming.

## Education

### EDUC 1102 - Introduction to Teaching

**3 credit hour(s)**

**Corequisite:** EDUC 1190 Introduces students to the professional world of teaching by exploring various issues and challenges that are important in the field of education. Students will explore professional standards, strategies for effective teaching, valuing classroom diversity, and the professional ethics of the teaching profession. Students will examine their own education pedagogy through coursework and field experience. Students are required to take and complete the co-requisite EDUC 1190: Teacher Education Practicum to pass the class.

**Note(s):**

- Typically offered in Fall and Spring Terms

### EDUC 1190 - Teacher Education Practicum

**1 credit hour(s)**

**Corequisite:** EDUC 1102 Applies understanding of the field of teacher education in a field-based 45-hour practicum in a K-12 school-based setting in general or special education. Students will observe and apply the knowledge from EDUC 1102 to classroom practice. Students must pass a background check to successfully complete the course requirements.

**Note(s):**45 practicum hours

Typically offered Fall & Spring

### EDUC 2090 - Math Education Field Experience

**1 credit hour(s)**

**Corequisite:** MATH 1110 or MATH 1115 or MATH 2110.

Places students with math teachers in the K-8 local school setting to observe mathematics lessons. Students will then analyze the mathematics content they observe in these field settings in connection with the content of MATH 1110 or MATH 1115 or MATH 2110).

**Note(s):**

- Repeatable for credit
- 45 lab hours

### EDUC 2096-2996 - Special Topics

**1-5 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### EDUC 2097 - Independent Study

**1-5 credit hour(s)**

**Prerequisite:** Department approval.

Studies a specific problem while working with assigned instructor.

### EDUC 2190 - Supervised Field Experience

**3 credit hour(s)**

**Prerequisite:** Department approval.

Applies learning theory and practices from all previous coursework in an advanced supervised fieldwork experience. Course competencies are built upon national and state standards and focus on planning, developing and implementing curriculum for diverse learners. Students are required to meet competencies as defined by the NM Public Education Department through a minimum of 180 contact hours in an approved education setting.

**Note(s):**

- 180 contact hours
- Enrollment in this course requires an application process.
- Typically offered Fall and Spring term only.

**EDUC 2203 - Introduction to Classroom Management Grades K-5****3 credit hour(s)****Prerequisite:** IRW 0970 or appropriate placement score.

Introduces students to practical classroom rules and procedures. Teaches prospective teachers about classroom setup, cognitive learning styles, managing student behavior and working with diverse populations.

**EDUC 2204 - Child Development****3 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.

Serves either as an introduction in the area of human development ages birth to 19, or as a resource for students requiring a basic orientation with a practical emphasis.

**EDUC 2205 - Introduction to Classroom Management Grades 6-12****3 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.

Introduces students to practical classroom environments and procedures in the secondary classroom, including classroom set-up, cognitive learning styles, managing student behavior and working with diverse populations. Offers various special topics in the field as elective hours.

**EDUC 2207 - Learning in the Classroom****3 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about how people learn and how to apply theories of learning in an educational context.

**EDUC 2222 - Literacy/Language Instruction for ESL Learners****3 credit hour(s)****Prerequisite:** EDUC 2250 or department approval.

Provides an understanding of second language acquisition and develops a strong basis for instruction of literacy/language to English as a Second Language learners in K-12 classrooms.

**EDUC 2224 - ESL Across the Content Areas****3 credit hour(s)****Prerequisite:** EDUC 2250 or department approval.

Provides an understanding of the goals, strategies and teaching techniques for effectively teaching content to ESL students in K-12 classrooms.

**EDUC 2225 - Theories and Principles of Bilingual Education****3 credit hour(s)****Prerequisite:** Department approval.

Focuses on the foundations of Bilingual Education/ESL in U.S. schooling with an emphasis on program models and issues in schooling for bilingual learners. This class is taught primarily in Spanish.

**EDUC 2226 - Instructional Methods and Strategies for the Bilingual Classroom****3 credit hour(s)****Prerequisite:** EDUC 2225.

Develops knowledge of and use of theories, approaches, methods, and strategies for teaching literacy, biliteracy and other academic

skills in English and the native language for elementary classrooms. This class is taught primarily in Spanish.

### **EDUC 2230 - Introduction to Gifted Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Introductory course in the education of gifted students. Provides overview of current and historical issues in the field. Introduces intellectual, social, emotional, developmental, and educational characteristics of gifted students. Appropriate educational opportunities and programming are discussed. Designed for those students currently working in education.

### **EDUC 2231 - Curriculum for Gifted Learners**

**3 credit hour(s)**

**Prerequisite:** EDUC 2230.

Focuses on curriculum content, process, and product-evaluation modifications for gifted learners. Students will gain an understanding of various curriculum models to include the enrichment triad, multiple menu, autonomous learner, parallel curriculum, and integrated curriculum models. Students will develop curriculum and lesson plans to meet the needs of gifted education learners. Designed for those students currently working in education.

### **EDUC 2232 - Strategies for Teaching Gifted Learners**

**3 credit hour(s)**

**Prerequisite:** EDUC 2230.

Presents differentiated instructional strategies for teaching gifted learners, including modifications in content, process, products and environment. Designed for those students currently working in education.

### **EDUC 2243 - Children's Literature**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Focuses on the building familiarity with high quality, culturally responsive, and authentic children's literature with the purpose of supporting literacy instruction in K-8 classrooms. Students will be introduced to a range of literature and strategies for incorporating this literature into their instruction.

### **EDUC 2250 - Foundations of Education**

**3 credit hour(s)**

**Prerequisite:** Acceptance into the alternative licensure program. Examines the historical, philosophical and social paradigms that define the modern teaching profession. Course competencies are built upon national, state, and professional standards and include understandings the need to develop and refine beliefs, goals, and strategies for effective teaching practice, the value of diversity in education, and the ethics of professional practice. Students participate in a 25-hour school-based practicum.

### **EDUC 2260 - Emergent Literacy**

**3 credit hour(s)**

**Pre- or corequisite:** EDUC 2285.

Examines the fundamentals of literacy development for emergent readers. Course competencies are built upon national and state standards for reading and focus on the development and assessment of oral language, phonemic awareness, alphabetic principle, phonics, sight words, fluency, spelling, and student vocabulary. Demonstrates research-based methods, materials, and strategies for diverse learners, including differentiation and interventions for struggling readers. Requires field experience as part of the course.

### **EDUC 2262 - Intermediate Literacy: Grades 4-8**

**3 credit hour(s)**

**Prerequisite:** EDUC 2260.

Examines the essential components of intermediate literacy instruction for students in grades 4-8. Course competencies are built upon national and state standards for elementary reading and focus on the development and assessment of student vocabulary, academic language, background knowledge, reading comprehension, and student research and analysis of narrative and expository texts. Demonstrates research-based methods, materials, and strategies for diverse learners, including differentiation and interventions for struggling readers. Requires field experience as part of the course.

### **EDUC 2264 - Reading and Writing across the Curriculum in Secondary Education**

**3 credit hour(s)****Pre- or corequisite:** EDUC 2285.

Examines the essential components of content area literacy instruction for students in grades 7-12.

Course competencies are built upon national and state standards and focus on the design and implementation of an integrated curriculum that supports diverse student needs in reading and writing across the curriculum. Demonstrates research-based methods, materials, and strategies for content area literacy instruction and assessment, including differentiation and interventions for struggling readers and writers. Requires field experience as part of the course.

**EDUC 2265 - Technology Integration in the Classroom****3 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Recommended:** IT 1010.\*

Examines the impact of technology on the changing role of the teacher. Students apply knowledge of learning theory to explore how to incorporate educational technology as a classroom tool in the K-12 learning environment. Students will use classroom technology to enhance curriculum development and application to the classroom. \* Appropriate for students with intermediate to advanced levels of computer literacy.

**EDUC 2272 - The Adolescent Learner****3 credit hour(s)**

**Prerequisite:** Acceptance into alternative licensure program. Examines the cognitive, emotional, social, physical and moral development of adolescents and the educational implications of the developmental period of early adolescence. Focuses on applying what is known about this age group to models of effective teaching, learning and schooling. Emphasizes the role of teacher in promoting the healthy development of adolescents.

**EDUC 2284 - Effective Teaching Methods and Strategies****3 credit hour(s)****Prerequisite:** EDUC 2250.

Examines the cognitive, interactive, and student-centered principles and structures of best practice teaching across the curriculum and among students of diverse languages, abilities, backgrounds and learning styles. Investigates effective methods and strategies for increasing K-12 student learning and motivation. Course competencies include best practices for classroom setup and climate, classroom management, student/teacher responsibility and communication, activities and assignments, teacher attitude and outlook. Requires field experience as part of the course.

**EDUC 2285 - Curriculum Development Assessment and Evaluation I****3 credit hour(s)****Pre- or corequisite:** EDUC 2250 or SPED 2250.

Applies the curricular and assessment principles and tools of Understanding by Design in the development of Common Core State Standard-aligned curriculum, assessment and evaluation. Course competencies are built upon national and state standards and focus on 1) applying the principles of curriculum design for student learning, 2) designing standards-based curricula, 3) developing summative performance tasks using assessment principles, and 4) evaluating data and student work to inform instruction.

**EDUC 2286 - Curriculum Development Assessment and Evaluation II****3 credit hour(s)****Prerequisite:** EDUC 2285.

Applies the curricular and assessment principles and tools learned in EDUC 2285 Curriculum Development Assessment and Evaluation I to lesson planning for the day-to-day and week-to-week classroom. Course competencies are built upon national and state standards and focus on 1) clearly identifying student learning goals, 2) developing formative assessments for learning, 3) engaging students in their own learning, and 4) differentiating for individual and diverse student needs.

**EDUC 2310 - Math Strategies for Elementary Teachers****3 credit hour(s)****Pre- or corequisite:** EDUC 2250 or department approval.

Learn strategies and materials appropriate for teaching elementary school mathematics.

**EDUC 2315 - Educating Linguistically and Culturally Diverse Students****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Familiarizes students with history, theory, practice, culture and politics of second language pedagogy and culturally relevant teaching. Examines theoretical and practical issues related to diversity of culture, race, gender, language, socioeconomic, and ability level in the classroom. Students will be introduced to effective teaching methods for linguistically and culturally diverse learners, including critical teaching behaviors and essential best practices for diverse students.

## Electrical Trades

### ELTR 1005 - Electrical Theory I

**4 credit hour(s)**

**Pre- or corequisite:** ELTR 1015.

Covers the basic concepts of DC and AC theory with emphasis on electron theory, units of electrical measurement, NEC terminology, and selection of branch circuit conductors.

### ELTR 1015 - Electrical Math I

**4 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Applies basic arithmetic functions, electrical formulas, calculations of material and circuit load requirements, rules for series, parallel and combination circuits and mechanical work and power.

**Note(s):**

- Previously ELTR 1010

### ELTR 1020 - Electrical DC/AC Lab

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Pre- or corequisite:** ELTR 1005 + ELTR 1015 or department approval.

**Corequisite:** ELTR 1030 or department approval.

Emphasis is placed on safety. Covers electrical circuitry, meters, power sources, conductors, insulators, reactive circuits and application of the National Electrical Code.

**Note(s):**

- 15 theory hours
- 90 lab hours
- Previously ELTR 1092

### ELTR 1030 - AC Circuitry, Motors, Generators

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Pre- or corequisite:** ELTR 1005 + ELTR 1015 or department approval.

**Corequisite:** ELTR 1020 or department approval.

Covers combination circuit analysis, RLC circuitry, DC/AC motors, generators, solid-state components, wiring methods for single pole and three-way switches and application of the National Electrical Code. Stresses safety.

**Note(s):**

- 15 theory hours
- 90 lab hours
- Previously ELTR 1192

### ELTR 1096-1996 - Special Topics

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **ELTR 1210 - Electrical Theory II**

**4 credit hour(s)**

**Pre- or corequisite:** ELTR 1215 or department approval.

Covers the application of the National Electrical Code, local codes and regulations for installation of branch circuits, services, feeders, temporary services and associated materials and equipment for residential and light commercial applications.

## **ELTR 1215 - Blueprint Reading I**

**4 credit hour(s)**

**Pre- or corequisite:** ELTR 1005 + ELTR 1015 + ELTR 1020 or department approval.

Provides instruction in reading and interpreting blueprints and specifications. Emphasizes terminology, symbols, notations, scaling, dimensioning and basic blueprint drawing techniques.

**Note(s):**

- 60 theory hours
- Previously ELTR 1205

## **ELTR 1220 - Residential Wiring Lab**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 1215 + ELTR 1210 or department approval.

**Corequisite:** ELTR 1230 or department approval.

Covers safety, tools, materials, single pole switches, receptacles, overcurrent protection, three- and four-way switches, pilot switches, door chimes, dryer and range receptacles and swamp coolers. NEC requirements for light commercial applications.

**Note(s):**

- 15 theory hours
- 90 lab hours
- Previously ELTR 1292

## **ELTR 1230 - Residential Electrical Services**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 1215 + ELTR 1210 or department approval.

**Corequisite:** ELTR 1220 or department approval.

Presents the study and building of residential services, installation of circuit panels, hand bending and installation of EMT conduit in adherence to the National Electrical Code.

**Note(s):**

- 15 theory hours
- 90 lab hours
- Previously ELTR 1392

## **ELTR 2005 - Electrical Theory III**

**4 credit hour(s)**

**Prerequisite:** ELTR 1215 + ELTR 1210 + ELTR 1220 + ELTR 1230 or department approval.

Introduces commercial/industrial aspects of electrical safety, tools, materials, power distribution systems, services, hazardous locations and blueprint reading in accordance with the National Electrical Code.

## **ELTR 2015 - Electrical Motor Control Theory**

**4 credit hour(s)**

**Prerequisite:** ELTR 1215 + ELTR 1210 + ELTR 1220 + ELTR 1230 or department approval.

Introduces students to the symbology and method of interpreting and drawing electromechanical motor control circuitry. NEMA standards are studied in detail.

**Note(s):**

- 60 theory hours

- Previously ELTR 2010

### **ELTR 2020 - Industrial Motor Control Lab**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 2005 + ELTR 2015 or department approval.

**Corequisite:** ELTR 2030 or department approval.

Covers safety, electromechanical relay-type motor control, momentary push button switches, limit switches, proximity switches, pneumatic timers, forward/reverse starters, three-phase motors and National Electrical Code requirements.

**Note(s):**

- 15 theory hours
- 90 lab hours
- Previously ELTR 2092

### **ELTR 2030 - Industrial Power Distribution**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 2005 + ELTR 2015 or department approval.

**Corequisite:** ELTR 2020.

Covers safety, use of mechanical and hydraulic benders, use of power threaders, knock-out punches, hammer drills and power actuated fasteners, cable installation, wire pulling and the application of the NEC.

**Note(s):**

- 15 theory hours
- 90 lab hours
- Previously ELTR 2192

### **ELTR 2096-2996 - Special Topics**

**1-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ELTR 2210 - Programmable Logic Controller Theory**

**4 credit hour(s)**

**Pre- or corequisite:** ELTR 2020 or department approval.

Introduces the principles of operation of a programmable controller, the numbering systems used by controllers, logic fundamentals and basics of programming.

### **ELTR 2220 - PLC Installation and Operation**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 2210 + ELTR 2020.

**Corequisite:** ELTR 2230 or department approval.

Covers installation and programming of programmable logic controllers in accordance with manufacturer's specifications and NEC requirements. Covers stimulating fundamental industrial control processes with various input and output devices.

**Note(s):**

- 15 theory hours
- 90 lab hours

### **ELTR 2230 - PLC Systems Operation and Troubleshooting**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 2210 + ELTR 2020 or department approval.

**Corequisite:** ELTR 2220 or department approval.

Covers intricate industrial wiring, motor controls and motor troubleshooting, programmable controller timer, counter and sequence



program operations and the troubleshooting techniques involved.

**Note(s):**

- 15 theory hours
- 90 lab hours

### **ELTR 2610 - Photovoltaic Installation Safety**

**2 credit hour(s)**

**Pre- or corequisite:** ELTR 1230 or department approval.

Safety aspects of electrical installations for photovoltaic worksites covering: Use of electrical meters, GFCI protection, LOTO, OSHA requirements, PPE, lifesaving equipment, fall protection, ladders, scaffolds, stairways, hazard communication, MSDS, and material handling.

**Note(s):**

- 30 theory hours

### **ELTR 2620 - Photovoltaic Theory/Design and Installation**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 1230 + ELTR 2610 or department approval.

Photovoltaic installation topics and aspects of PV overview, electrical principles, solar resource, electrical load analysis, PV site analysis, PV design, PV components, PV system wiring, grid tie vs. stand-alone systems, battery backup systems, installation considerations.

**Note(s):**

- 45 theory hours

### **ELTR 2630 - Advanced PV Theory /Design/ Installation/ Maintenance and Commissioning**

**4 credit hour(s)**

**Pre- or corequisite:** ELTR 2620 or department approval.

Photovoltaic installation topics and aspects of: Safety, electrical lock out tag out, maximum system voltage, disconnects, series fusing, service panel connections, inverters, layout and mounting, grounding and ground fault/surge protection, system sizing, NEC considerations, commissioning and production analysis, maintenance and troubleshooting are covered in this course.

**Note(s):**

- 30 theory hours
- 90 lab hours

### **ELTR 2692 - PV Installation Lab**

**3 credit hour(s)**

**Pre- or corequisite:** ELTR 2630 or school approval. Photovoltaic installation practices and safety are emphasized covering lockout tag out, testing high voltage, hazards, safety equipment, site safety, first aid, PV panel layout, pitch roof mounting systems, flat roof mounting systems, pole mount systems, disconnect installation, wiring sizing and installation, inverter installation, commissioning checklist.

**Note(s):**

- 135 lab hours

### **ELTR 2997 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

### **ELTR 2999 - Electrical Trades Capstone Course**

**1 credit hour(s)**

**Pre- or corequisite:** ELTR 2220 or ELTR 2692 or department approval.

Preparation of a professional portfolio that demonstrates student's mastery of technical and core competencies.

**Note(s):**

- Taken during student's last term.

## **Electrical Trades Apprenticeship**

### **ETAP 1115 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

### **ETAP 1125 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the Electrical Trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layouts, National Electrical Code interpretation, tool usage and motor controls.

### **ETAP 1135 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

### **ETAP 1215 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

### **ETAP 1225 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

### **ETAP 1235 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

### **ETAP 1315 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

### **ETAP 1325 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

## **ETAP 1335 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

## **ETAP 1415 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

## **ETAP 1425 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval.

Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor controls.

## **ETAP 1435 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

## **ETAP 1515 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

## **ETAP 1525 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

## **ETAP 1535 - Electrical Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the electrical trades industry or department approval required. Provides 75-105 hours of related classroom instruction covering safety, electrical theory, blueprint reading and layout, National Electrical Code interpretation, tool usage and motor control.

## **Electronic Health Record**

### **EHR 1010 - Introduction to Electronic Health Record**

**3 credit hour(s)**

**Prerequisite:** HIT 1020 + HIT 1030 + IT 1010.

This course is an introductory level course in the processes and systems that make up the electronic health record. Emphasis is on the content, format, storage and retrieval of electronic medical records and the different major software packages currently in use of electronic health records

### **EHR 1090 - Electronic Health Record Practicum**

**2 credit hour(s)**

**Prerequisite:** EHR 1010.

**Pre- or corequisite:** CIS 1610 + HIT 1070 + HIT 2040.

Provides a clinical learning experience in a health care facility. Emphasis is on management of the electronic health record and the technology used to maintain the electronic health record. This is an unpaid work experience.

**Note(s):**

- 90 Practicum hours

### **EHR 2210 - Health Information Exchange and Mobile-Health**

**4 credit hour(s)**

**Prerequisite:** HIT 2040 + EHR 1010 + EHR 1090.

Building on previous knowledge, this course introduces students to advanced concepts in the management of Electronic Health Records.

### **EHR 2290 - Electronic Health Records Practicum II**

**2 credit hour(s)**

**Pre- or corequisite:** EHR 2210 + EHR 2292.

Provides a clinical learning experience in a health care facility. Emphasis is on advanced topics in the management of the electronic health record and the technology used to maintain the electronic health record. This is an unpaid work experience.

**Note(s):**

- 90 Practicum hours

### **EHR 2292 - Health Information Exchange and Mobile-Health Lab**

**1 credit hour(s)**

**Prerequisite:** EHR 1010 + EHR 1090.

**Pre- or corequisite:** EHR 2210.

Provided the opportunity for students to practice navigation of the electronic health record in a laboratory environment.

## **Electronics**

### **ELEC 1002 - Survey of Advanced Technologies Career Pathways**

**1 credit hour(s)**

Overview of the Advanced/Emerging Technologies Industry: Sectors, Jobs, Technology and Trends.

### **ELEC 1004 - DC and AC Circuits**

**4 credit hour(s)**

**Pre- or corequisite:** ELEC 1092.

This course covers the basic concepts of DC and AC electronics with emphasis on Ohm's Law, Kirchhoff's Law, power, magnetism and electromagnetism, with emphasis on circuit analysis, component application and troubleshooting. Construct circuits from schematic diagrams and use of multimeters, oscilloscopes, function generators and power supplies in the lab to support concepts taught in class. Introduction and use of circuit simulation software (Multisim) to build, simulate, test, and troubleshoot fundamental electronic circuits.

### **ELEC 1022 - Soldering Standards**

**2 credit hour(s)**

Industry standard soldering techniques for high reliability connections. Soldering certification is covered.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **ELEC 1092 - DC and AC Circuits Lab**

**2 credit hour(s)**

**Pre- or corequisite:** ELEC 1004.

Laboratory exercises designed to reinforce the concepts from ELEC 1004.

**Note(s):**

- 90 lab hours

## **ELEC 1096-1996 - Special Topics**

**1-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **ELEC 1101 - Digital Circuits Concepts and Design**

**3 credit hour(s)**

**Corequisite:** ELEC 1192.

Covers the fundamentals of Digital logic, and FPGAs. Building/troubleshooting digital electronics devices and circuits with emphasis on components using the FPGA and VHDL coding. Project Design, Synthesis, Behavioral Simulation, and Configuration of Hardware Devices are the main processes of the class to program digital gates, combinational logic circuits, and basic digital devices (counters, shift registers, DAC, etc.)

## **ELEC 1192 - Digital Circuit Concepts and Design Lab**

**2 credit hour(s)**

**Corequisite:** ELEC 1101.

Laboratory exercise designed to reinforce the concepts from ELEC 1101.

**Note(s):**

- 90 lab hours

## **ELEC 1202 - Semiconductor/Solid State Devices**

**3 credit hour(s)**

**Prerequisite:** ELEC 1004 + ELEC 1092.

**Corequisite:** ELEC 1292.

This course will cover the following components/devices and their application: Diodes, Transistors, Operational Amplifiers, MOSFETs, Integrated Circuits, Switching Power Supplies, DC-DC Converters, Inverters. Includes measurement, conversion/control, troubleshooting electronic circuits with emphasis on Integrated Circuits.

## **ELEC 1292 - Semicon/Ssdev Lab**

**2 credit hour(s)**

**Corequisite:** ELEC 1202.

Laboratory exercise designed to reinforce the concepts from ELEC 1202.

**Note(s):**

- 90 lab hours

## **ELEC 1301 - Electromechanical Devices & Systems**

**3 credit hour(s)**

**Prerequisite:** ELEC 1202 + ELEC 1292.

**Corequisite:** ELEC 1393.

Presents theory and application of mechanical devices and their control circuits. Includes hydraulics, pneumatics, PLCs, AC and DC and VFD motors, stepper motors and servomechanisms. Students design, assemble, operate and troubleshoot electromechanical systems.

## **ELEC 1393 - Electromechanical Devices & Systems Lab**

**2 credit hour(s)**

**Pre- or corequisite:** ELEC 1301.

Laboratory exercise designed to reinforce the concepts from ELEC 1301.

**Note(s):**

- 90 lab hours

## **ELEC 1401 - Telecommunications Circuits & Systems**

**3 credit hour(s)**

**Prerequisite:** ELEC 1202 + ELEC 1301.

**Corequisite:** ELEC 1492.

This course covers tuned amplifiers, oscillators, optoelectronic devices, AM/FM & Single-Sideband communications. Coding techniques, Transmission lines, Antennas, Waveguides and RADAR, Television.

## **ELEC 1492 - Telecommunications Circuits & Systems Lab**

**2 credit hour(s)**

**Corequisite:** ELEC 1401.

Laboratory exercise designed to reinforce the concepts from ELEC 1401.

**Note(s):**

- 90 lab hours

## **ELEC 2010 - Intro/Embedded Sys**

**4 credit hour(s)**

**Prerequisite:** ELEC 1202 + ELEC 1292.

Focuses on programming an embedded system in a Windows environment. Programs written in Assembly Language are assembled to process instructions and data for controlling various I/O functions. Emphasis is given to a final I/O project involving input sensors (transducers), A/D converters, D/A converters and output devices (actuators).

**Note(s):**

- 30 theory hours
- 90 lab hours

## **ELEC 2020 - Upgrading and Repairing PCs**

**3 credit hour(s)**

This course maps fully to CompTIA's new 2006 A+ Exam objectives. The course is designed to be a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer hardware.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **ELEC 2025 - Advanced Upgrading and Repairing PCs**

**3 credit hour(s)**

**Prerequisite:** ELEC 2020.

This course maps fully to CompTIA's new 2006 A+ Exam objectives. The course is designed to be a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer software.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **ELEC 2040 - Systems Simulation**

**3 credit hour(s)**

**Prerequisite:** ELEC 1301 + ELEC 1393 + ELEC 2010.

Electronics Test Equipment and Systems, Block Diagram & Signal Flow Analysis. Use of Simulation Software to teach design and troubleshooting.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **ELEC 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. The position is paid.

**ELEC 2096-2996 - Special Topics****1-8 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**ELEC 2097 - Independent Study****1-7 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student to investigate and solve a problem. The student designs the solution using a combination of techniques.

**ELEC 2098 - Internship****3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. The position is not paid.

**ELEC 2999 - Capstone****2 credit hour(s)**

**Pre- or corequisite:** ELEC 1401 + ELEC 1492 + ELEC 2010.

Capstone projects course.

**Note(s):**

- 15 theory hours
- 45 lab hours

## Elementary Education

**ELEM 1189 - The Paraprofessional in the Classroom****2 credit hour(s)**

Provides students with the practical and theoretical knowledge of the role of the educational paraprofessional.

## Emergency Medical Technician

**EMS 1001 - EMS First Responder Theory****2 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Pre- or corequisite:** HLTH 1001.

**Corequisite:** EMS 1091.

Provides the level of classroom instruction needed to assist in patient emergencies in the workplace and non-transport settings. Some fire services allow First Responder certification as a minimum requirement for employment; most prehospital EMS services require EMT-Basic licensure. Includes instruction on preparatory topics, airway management, patient assessment, medical emergencies, trauma emergencies, pediatric care and EMS operations. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM First Responder Scope of Practice.

**Note(s):**

- This course is NOT a pre- or corequisite for any other level of EMS training at CNM

**EMS 1053 - EMT Basic Theory**

**6 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** HLTH 1001 + ENG 1101.

**Corequisite:** EMS 1093 + EMS 1190.

Provides the level of classroom instruction needed to begin a career in emergency medical services. Includes instruction on preparatory topics, airway management, patient assessment, medical emergencies, trauma emergencies, pediatric care and EMS operations. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM EMT-Basic Scope of Practice.

**EMS 1091 - EMS First Responder Lab****1 credit hour(s)**

**Corequisite:** EMS 1001.

Students will be introduced to a variety of First Responder emergency skills and patient assessment strategies.

**Note(s):**

- This course is NOT a pre- or corequisite for any other level of EMS training at CNM
- 45 lab hours

**EMS 1092 - EMS Basic Supplemental Skills Lab (CR/NC)****1 credit hour(s)**

**Pre- or corequisite:** EMS 1093.

Provides EMT-Basic students the opportunity for additional supervised learning and practice of EMS skills and patient assessment strategies in the campus laboratory. Reinforces topics in preparation for state licensure and national certification EMS exams.

**Note(s):**

- 45 lab hours

**EMS 1093 - EMT Basic Lab****2 credit hour(s)**

**Corequisite:** EMS 1053 + EMS 1190.

Students will practice simulated patient care exercises focused on splinting and bandaging, airway management, medication administration and patient assessment. Meets or exceeds the psychomotor objectives of the National EMS Education Standards and incorporates the NM EMT-Basic Scope of Practice. At the completion of the EMT-Basic theory and lab courses, students are eligible to take the State of New Mexico EMT-Basic licensure examination.

**Note(s):**

- 90 lab hours

**EMS 1096-1996 - Special Topics****1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**EMS 1190 - EMT Basic Clinical****1 credit hour(s)**

**Corequisite:** EMS 1053 + EMS 1093.

Provides practice of basic skills in a clinical setting. At the completion of the basic course series students are eligible to take the State of New Mexico EMT Basic licensure examination. Current proof of healthcare provider CPR certification and proof of health insurance is required for this course. Program fee required.

**Note(s):**

- 45 clinical hours

**EMS 1412 - Advanced EMT (EMT-I) Theory**



**6 credit hour(s)**

**Prerequisite:** EMS 1053 + EMS 1093 + EMS 1190\* + department approval.

**Pre- or corequisite:** ENG 1101 + MATH 1210 or higher.

**Corequisite:** EMS 1493.

Builds on material presented in the EMT-Basic course. Special emphasis is placed on teaching advanced assessment skills. In addition, the course will expand significantly the number of medications a student can administer in an emergency setting as well as instruction on the theory of IV fluid resuscitation. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM EMT- Intermediate Scope of Practice.

\* or EMS 1010 (2007-09)

**EMS 1493 - Advanced EMT (EMT-I) Lab****2 credit hour(s)**

**Corequisite:** EMS 1412.

Prepares students to participate in the clinical experience. Students will practice simulated patient care exercises focused on IV fluid therapy, medication administration and advanced patient assessment skills. Meets or exceeds the psychomotor objectives of the National EMS Education Standards and incorporates the NM EMT-Intermediate Scope of Practice.

**Note(s):**

- 90 lab hours

**EMS 1715 - First Responder, EMT-B, and EMT-I Refresher****2 credit hour(s)**

This is a State of New Mexico approved course. It meets the refresher requirements for First Responder, EMT-Basic and EMT-Intermediate licensure renewal. Additionally, this course meets NREMT refresher requirements for First Responder and EMT-Basic certification renewal. Hours in excess of refresher requirements will be awarded CE credit. Students must be licensed EMS providers.

**Note(s):**

- Meets the refresher requirements for EMS licensure renewal at the First Responder, EMT-Basic, EMT-Intermediate and Paramedic levels

**EMS 1890 - Advanced EMT (EMT-I) Clinical****2 credit hour(s)**

**Prerequisite:** EMS 1412 + EMS 1493 + department approval.

Provides practice of intermediate skills in a clinical setting. At the completion of the advanced EMT course series, students are eligible to take the State of New Mexico EMT Intermediate licensure examination. Current EMT-B New Mexico State license and current proof of professional CPR and proof of health insurance are required. Program fee required.

**Note(s):**

- 90 clinical hours

**EMS 2015 - EMS Combo BLS/ILS/ALS Refresher****2 credit hour(s)**

This is a combination refresher course for licensed EMT Basic, EMT Intermediate /AEMT and EMT-Paramedic Providers. This includes online work, quizzes as well as in class homework. This is an online course with 2 days of in class lab instruction. Total contact time is 60 hours. This refresher meets the NREMT and NM EMS Bureau requirements.

**Note(s):**

- Requires either a New Mexico EMS license or national registry certification.

**EMS 2092 - EMS Advanced Supplemental Skills Lab (CR/NC)****1 credit hour(s)**

**Pre- or corequisite:** EMS 1493 or EMS 2293.

Provides EMT-Intermediate and Paramedic students opportunity for additional learning and practice of advanced EMS skills and patient assessment strategies in the campus laboratory before going into the clinical setting. Additional IV skills practice may be required. Reinforces topics in preparation for state licensure and national certification EMS exams. Current EMT-B (or higher) New Mexico State License or NREMT certification required.

**Note(s):**

- 45 lab hours

### **EMS 2093 - Vehicle Extrication (CR/NC)**

**1 credit hour(s)**

**Prerequisite:** EMS 1053 or EMS 1412 or FS 1010.

Provides training in the methods of vehicle extrication which meets Department of Transportation (DOT), National Fire Protection Association (NFPA) and International Fire Service Training Association (IFSTA) standards for Basic Vehicle Extrication. The emphasis of this course is hands on application of the tools in a lab environment. The EMS Program has a limited quantity bunker gear (safety equipment), students may be asked to provide their own safety equipment in some cases.

**Note(s):**

- 45 lab hours

### **EMS 2097 - Independent Study**

**1-4 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student and instructor to define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

### **EMS 2103 - Human Systems Pathophysiology and Development**

**3 credit hour(s)**

**Corequisite:** EMS 2105 + EMS 2192 + EMS 2207.

This course focuses on how common traumatic and medical emergencies affect normal anatomy and physiology for patients of all ages. This course complements other required EMS courses to show how both physical and drug intervention attempt to return a diseased or injured body to a normal physiologic state. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM EMT-Paramedic Scope of Practice.

### **EMS 2105 - EMS Program Success Course**

**3 credit hour(s)**

**Pre- or corequisite:** EMS 2103 + EMS 2192 + EMS 2207.

This course contains a review EMT Basic Foundational knowledge, techniques for time management, learning strategies, test preparation, decision making, critical thinking, work/life balance, study habits in paramedic school, professional behavior expectations, EMS chart writing, clinical data entry and tracking and EMS Medical Terminology.

### **EMS 2192 - Drug Calculations Lab**

**2 credit hour(s)**

**Prerequisite:** BIO 1410 + (EMS 1190 or EMS 1890) + (ENG 1101 or ENG 1102 or ENG 1119) + AAS Mathematics Requirement + PSY 1105 + department approval.

**Corequisite:** EMS 2103 + EMS 2207+ EMS 2105.

This course presents dosage calculation methods for enteral and parenteral medications, including intravenous therapy and pediatric dosages in the EMS environment. This course is a hands on approach to calculations used in an emergency situation in the prehospital setting. This course integrates patient assessment for the Term 1 paramedic student. This course also Provides instruction needed to provide advanced care for patients in a clinical setting. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM EMT- Paramedic Scope of Practice.

**Note(s):**

- 90 Lab hours

### **EMS 2207 - Legal Issues and Report Writing**

**2 credit hour(s)**

**Corequisite:** EMS 2103 + EMS 2105 + EMS 2192.

Presents legal and ethical dilemmas for paramedic providers. The course will also review the aspects of documentation that can reduce the risk of legal litigation. Meets or exceeds the cognitive objectives of the EMT-Paramedic National Standard Curriculum and incorporates the NM EMT- Paramedic Scope of Practice.

## **EMS 2213 - Endocrine and GI/GU Theory**

**1 credit hour(s)**

**Corequisite:** EMS 2217 +EMS 2223 + EMS 2291 + EMS 2313.

Provides the level of classroom instruction needed to provide advanced care for patients with endocrine and GI/GU emergencies. Meets or exceeds the cognitive objectives of the EMT-Paramedic National Standard Curriculum and incorporates the NM EMT-Paramedic Scope of Practice.

## **EMS 2217 - Pharmacology Theory**

**3 credit hour(s)**

**Prerequisite:** EMS 2103 + EMS 2105 + EMS 2192 + EMS 2207.

**Corequisite:** EMS 2213 + EMS 2223 + EMS 2291 + EMS 2313.

Provides understanding of how chemical agents act upon the body and the theoretical base for administering medications in the emergency setting. Includes pharmacokinetics, pharmacodynamics, therapeutic uses, adverse reactions, precautions and contraindications of medications used in the prehospital setting. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM EMT-Paramedic Scope of Practice.

## **EMS 2223 - Advanced Trauma Theory**

**3 credit hour(s)**

**Corequisite:** EMS 2213 + EMS 2217 + EMS 2291 + EMS 2313

Provides the level of classroom instruction needed to provide advanced care for trauma patients. Includes instruction on the theory of advanced airway management and IV fluid resuscitation. Meets or exceeds the cognitive objectives of the National EMS Education Standards, Prehospital Trauma Life Support and incorporates the NM EMT-Paramedic Scope of Practice.

## **EMS 2291 - Paramedic Lab I**

**2 credit hour(s)**

**Corequisite:** EMS 2213 + EMS 2217 + EMS 2223 + EMS 2313. Provides the level of classroom instruction needed to provide advanced care for patients in a clinical setting. Includes instruction on advanced airway management, medication administration, IV fluid resuscitation, and patient assessment. Meets or exceeds the cognitive objectives of the National EMS Education Standards, Prehospital Trauma Life Support and incorporates the NM EMT-Paramedic Scope of Practice. (90 Lab Hours)

**Note(s):**

- 90 Lab hours
- Formerly Introduction to Paramedic Lab

## **EMS 2293 - Advanced Trauma Lab**

**2 credit hour(s)**

**Prerequisite:** EMS 1053 + EMS 1093 **Corequisite:** EMS 2223.

Provides the level of classroom instruction needed to provide advanced care for trauma patients. Includes instruction on advanced airway management and IV fluid resuscitation. Meets or exceeds the cognitive objectives of the National EMS Education Standards, Prehospital Trauma Life Support and incorporates the NM EMT-Paramedic Scope of Practice. A current EMT-B New Mexico State License or current EMT-B NREMT certification will be accepted for EMS 1053 + EMS 1093.

**Note(s):**

- 90 lab hours

## **EMS 2303 - Cardiovascular Theory**

**3 credit hour(s)**

**Prerequisite:** EMS 2213 + EMS 2217 + EMS 2223 + EMS 2291 + EMS 2313.

**Pre- or corequisite:** EMS 2307 + EMS 2390 + EMS 2393 + EMS 2513.

Provides the level of classroom instruction needed to provide advanced care for cardiac patients. Includes instruction on the theory of 12-lead ECG interpretation. Meets or exceeds the cognitive objectives of the National EMS Education Standards, Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS) and incorporates the NM EMT-Paramedic Scope of Practice.

## **EMS 2307 - Respiratory Theory**

**2 credit hour(s)**

**Pre- or corequisite:** EMS 2303 + EMS 2390 + EMS 2393 +EMS 2513.

Provides the paramedic student the skills to properly assess and treat a patient with various respiratory problems. The content will include anatomy and physiology from an EMS perspective.

### **EMS 2313 - Neurological Theory**

**2 credit hour(s)**

**Pre- or corequisite:** EMS 2213 + EMS 2217 + EMS 2223 + EMS 2291.

Provides the level of classroom instruction needed to provide advanced care for neurological patients. Meets or exceeds the cognitive objectives of the National EMS Education Standards and incorporates the NM EMT- Paramedic Scope of Practice.

### **EMS 2390 - Hospital Clinical I**

**2 credit hour(s)**

**Pre- or corequisite:** EMS 2303 + EMS 2307 + EMS 2393 + EMS 2513.

This course provides students with clinical time in local hospitals to administer medications, perform airway skills, perform venous access and assess patients of all age groups with various medical or traumatic conditions. This clinical will have an adult focus.

**Note(s):**

- 120 Clinical intensive hours

### **EMS 2393 - Paramedic Lab II**

**3 credit hour(s)**

**Pre- or corequisite:** EMS 2303 + EMS 2307 + EMS 2390 + EMS 2513.

Students will practice simulated patient care related to second and third semester paramedic courses. Students will develop treatment strategies to manage various medical and trauma emergencies. Meets or exceeds the psychomotor objectives of the National EMS Education Standards, Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS).

**Note(s):**

- 135 lab hours
- Formerly Paramedic Lab I

### **EMS 2503 - Pediatric and Gynecology Theory**

**3 credit hour(s)**

**Prerequisite:** EMS 2303 + EMS 2307 + EMS 2313 + EMS 2390 + EMS 2393.

**Pre- or corequisite:** EMS 2507 + EMS 2590 + EMS 2593 + EMS 2790.

Provides the level of classroom instruction needed to provide advanced care for pediatric and obstetric patients. Meets or exceeds the cognitive objectives of the National EMS Education Standards, Basic Life Support (BLS), Pediatric Advanced Life Support (PALS), Pediatric Emergencies for Prehospital Providers (PEPP) and incorporates the NM EMT-Paramedic Scope of Practice.

### **EMS 2507 - Environmental Theory**

**3 credit hour(s)**

**Pre- or corequisite:** EMS 2503 + EMS 2590 + EMS 2593 + EMS 2790.

Provides the level of classroom instruction needed to provide advanced care for patients with experiencing environmental emergencies. Includes instruction on toxicology, hazardous materials and weapons of mass destruction. Meets or exceeds the cognitive objectives of the National EMS Education Standards.

### **EMS 2513 - Behavioral Emergencies and Communication**

**1 credit hour(s)**

**Pre- or corequisite:** EMS 2303 + EMS 2307 + EMS 2390 + EMS 2393.

Provides the level of classroom instruction needed to provide advanced care for patients experiencing behavioral emergencies. Includes instruction on effective communication with patients, coworkers and other healthcare professionals. Meets or exceeds the cognitive objectives of the EMT-Paramedic National Standard Curriculum and incorporates the National EMS Education Standards.

### **EMS 2590 - Hospital Clinical II**

**1 credit hour(s)**

**Pre- or corequisite:** EMS 2503 + EMS 2507 + EMS 2593 + EMS 2790 .

This course provides students with clinical time in local hospitals to administer medications, perform airway skills, performs venous

access, and assess patients of all age groups with various medical or traumatic conditions. This clinical will have a pediatric focus.

**Note(s):**

- 60 Clinical intensive hours

### **EMS 2593 - Paramedic Lab III**

**2 credit hour(s)**

**Pre- or corequisite:** EMS 2503 + EMS 2507 + EMS 2590 + EMS 2790.

Students will practice simulated patient care related to second, third, and fourth term semester paramedic courses. Students will develop treatment strategies to manage various medical and trauma emergencies. Meets or exceeds the psychomotor objectives of the National EMS Education Standards, and Pediatric Advanced Life Support (PALS) and Pediatric Emergencies for Prehospital Providers (PEPP).

**Note(s):**

- 90 lab hours
- Formerly Paramedic Lab II

### **EMS 2715 - Paramedic Refresher**

**2 credit hour(s)**

This is a State of New Mexico approved course. It meets the refresher requirements for EMT-Paramedic licensure renewal. Additionally, this course meets NREMT refresher requirements for EMT-Paramedic certification renewal. Hours in excess of refresher requirements will be awarded CE credit. Students must be licensed paramedics.

**Note(s):**

- Meets the refresher requirements for EMS licensure renewal at the First Responder, EMT-Basic, EMT-Intermediate and Paramedic levels
- 15 theory hours
- 45 lab hours

### **EMS 2790 - Capstone Field Experience**

**6 credit hour(s)**

**Pre- or corequisite:** EMS 2503 + EMS 2507 + EMS 2590 + EMS 2593.

This course is the summative evaluation of paramedic training . Paramedic students to be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for patients with common complaints. Students will show competency as a team lead and team member . This meets the National Registry of Emergency Medical Technicians guidelines and standards. Under the direction of a field preceptor, the student will learn to safely manage a prehospital emergency. The student will arrange EMS field time through the internship coordinator. This course also includes preparation for the NREMT psychomotor skills exam.

**Note(s):**

- 360 Clinical hours

## **Engineering**

### **ENGR 1010 - Survey of Engineering Fields**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 1310 or appropriate placement score.

Introduces the engineering design process and exploration of careers in engineering.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **ENGR 2088 - Engineering Specialty**

**1-16 credit hour(s)**

This course is used to transfer approved courses from other colleges and universities to fulfill requirements for the AS Engineering degree. Please contact the School of Math, Science & Engineering for a list of approved courses.

## **ENGR 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **ENGR 2710 - Thermodynamics**

**3 credit hour(s)**

**Prerequisite:** CHEM 1710/CHEM 1792 + MATH 1715 + PHYS 1810.

First and second laws of thermodynamics and their applications to engineering systems. Thermodynamic equilibrium, thermodynamic properties, availability and irreversibility.

## **ENGR 2810 - Engineering Statics**

**3 credit hour(s)**

**Prerequisite:** PHYS 1710 + MATH 1715.

Introduces the following concepts: statics of particles and rigid bodies in two and three dimensions using vector algebra as an analytical tool, centroids, distributed loads, trusses, frames and friction.

## **ENGR 2815 - Engineering Dynamics**

**3 credit hour(s)**

**Prerequisite:** ENGR 2810.

**Pre- or corequisite:** MATH 2710.

Kinematics and kinetics of particles, systems of particles and solid bodies. Force/acceleration, work/energy and impulse/momentum principles. Graphical analysis, mechanisms and vibrations.

## **ENGR 2910 - Circuit Analysis I**

**3 credit hour(s)**

**Prerequisite:** CSCI 1151 or CSCI 1152 or CSCI 1153.

**Pre- or corequisite:** PHYS 1810 + MATH 2910.

This course introduces the following concepts: basic elements and sources, energy and power, Ohm's Law and Kirchhoff's Law resistive networks, node and loop analysis, Thevenin's and Norton's theorems, sinusoidal sources and complex representations and three phase circuits.

## **ENGR 2915 - Circuit Analysis II**

**3 credit hour(s)**

**Prerequisite:** ENGR 2910 + MATH 2910.

This course focuses on the following: differential equation modeling and analysis of linear circuits with sinusoidal inputs (phasors, impedances, admittances, power); comprehensive treatment of circuit analysis in the frequency domain (Laplace transforms, frequency response, Bode plots, Fourier analysis).

# **English**

## **ENG 0196-0996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. See *Schedule of Classes*.

## **ENG 1101 - College Writing**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

## **ENG 1102 - Analytic and Argumentative Writing**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

## **ENG 1119 - Technical Communications**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Introduces study of written and verbal communication in business and industry.

## **ENG 1150 - Study Of Literature**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Introduces the academic study of literature.

## **ENG 2096-2996 - Special Topics in Literature**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Presents various topics.

### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **ENG 2206 - Popular Literature: Detective Novel**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Surveys detective fiction as a literary genre, examining its distinctive traits as they developed in Britain and America.

## **ENG 2207 - Popular Literature: Science Fiction**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Surveys the science fiction genre, examining its history, its dominant themes and ideas and its most important creators.

## **ENG 2210 - Film as Literature**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Presents study of film as visual literature, surveying major trends in the history of film.

## **ENG 2213 - Film Genres: Comedy**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Surveys the history of film comedy, from early silent films to more recent developments. Examines the artistic, cultural and historical forces that created the genre.

## **ENG 2214 - Film Genres: Film Noir**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Surveys the film style/genre known as film noir. Investigates the cultural/stylistic origins of noir, its characteristic and conventional elements, its principal subject interests and narrative techniques and representative examples of noir's evolution in film history.

## **ENG 2216 - Film Genres: World Cinema**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Surveys the films from Africa, Latin America, the Middle East and Southeast Asia. Addresses topics of post-colonialism and national identity as well as film history and aesthetics in emerging national cinemas.

**ENG 2219 - Technical Writing****3 credit hour(s)**

**Prerequisite:** ENG 1102.

Emphasizes writing in industry, research laboratories, business and other professional settings.

**ENG 2220 - Expository Writing****3 credit hour(s)**

**Prerequisite:** ENG 1102.

Focuses on advanced composition, concentrating on critical reading of prose and writing expository and argumentative essays.

**ENG 2221 - Creative Writing: Fiction****3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Introduces fiction writing as a creative process.

**ENG 2222 - Creative Writing: Poetry****3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Introduces poetry writing as a creative process.

**ENG 2240 - Traditional Grammar****3 credit hour(s)**

**Prerequisite:** ENG 1102.

Surveys traditional grammar, introducing linguistic terminology and methods for identifying and understanding parts of speech, parts of sentences and basic sentence patterns.

**ENG 2250 - Analysis of Literature****3 credit hour(s)**

**Prerequisite:** ENG 1102.

Emphasizes methods of literary analysis and critical writing applied to literary techniques, conventions and themes.

**ENG 2251 - Introduction to Dramatic Literature****3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Introduces structure and nature of drama as a literary form: Greek, Renaissance, Enlightenment and Modern eras.

**ENG 2262 - Survey of Earlier World Literature****3 credit hour(s)**

**Prerequisite:** ENG 1102.

Surveys poetry, fiction and drama from primarily non-English cultures: ca. 1500 B.C. - A.D. 1650.

**ENG 2263 - Survey of Later World Literature****3 credit hour(s)**

**Prerequisite:** ENG 1102.

Surveys poetry, fiction and drama from primarily non-English cultures: ca. 1650 to present.



**Note(s):**

- Typically offered Spring term only.

**ENG 2282 - Modern Latin American Literature****3 credit hour(s)****Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Emphasizes chronicles, diaries, drama, poetry, essays and fiction of Latin America from late 19th century to the present.

**ENG 2284 - Survey of Earlier English Literature****3 credit hour(s)****Prerequisite:** ENG 1102.

Survey British literature from Old English to 1798.

**Note(s):**

- Typically offered Fall term only.

**ENG 2285 - Survey of Later English Literature****3 credit hour(s)****Prerequisite:** ENG 1102.

Surveys English literature from the late 18th century to the present.

**Note(s):**

- Typically offered Spring term only.

**ENG 2287 - Earlier American Literature****3 credit hour(s)****Prerequisite:** ENG 1102 or department approval.

Introduces short stories, poetry, drama and nonfiction from colonial U.S. to 1865.

**ENG 2288 - Later American Literature****3 credit hour(s)****Prerequisite:** ENG 1102.

Continues study of American literature begun in ENG 2287. Focuses on short stories, poetry, drama, the novel and nonfiction from the 1865 to the present.

**Note(s):**

- Typically offered Fall term only.

**English as a Second Language****ESL 0250 - ESL Literacy****0 credit hour(s)**

Introduces alphabet, phonemic system, basic vocabulary and simple sentences in meaningful, communicative contexts. For students who have had no previous exposure to written or spoken English.

**ESL 0350 - Beginning ESL****0 credit hour(s)**

Develops English language skills with an emphasis on pronunciation practice, listening comprehension, conversation and basic grammar.

**ESL 0450 - Low Intermediate ESL****0 credit hour(s)**

Focuses on practice in communication skills for everyday life, which may include voicing opinions and responding appropriately in conversations on familiar topics, discussing short reading selections, learning and reviewing grammatical skills and conventions of oral

and written English.

### **ESL 0500 - Integrated ESL**

**0 credit hour(s)**

Presents reading, writing, listening, speaking and grammatical skills through group work, paired practice and self-paced instruction. Comprehensive, community-based classes for students at all levels of English proficiency.

### **ESL 0505 - ESL Learning Center**

**0 credit hour(s)**

Includes individualized study and tutoring in English language skills with access to computer, video and audio programs as well as other instructional materials in the Adult Education Learning Center at Main Campus or Montoya Campus.

### **ESL 0550 - High Intermediate ESL**

**0 credit hour(s)**

Expands focus on practice in communication skills for everyday life, which may include voicing opinions and responding appropriately in conversations on familiar topics, discussing short reading selections, learning and reviewing grammatical skills and conventions of oral and written English.

### **ESL 0600 - Citizenship**

**0 credit hour(s)**

Covers English language skills, American history and government. For students who have a high intermediate to advanced level of English and are preparing to become American citizens.

### **ESL 0650 - Low Advanced ESL**

**0 credit hour(s)**

Covers English conversation, writing, reading and evaluation of materials and study of advanced grammar in meaningful, communicative contexts.

### **IBEC 0500 - I-BEST/ESL Early Childhood Multicultural Education**

**0 credit hour(s)**

**Corequisite:** Must be co-enrolled with ECME course. Develops English language skills needed to complete academic requirements and work in professional early child multicultural education positions. Language instruction is contextualized within the framework of the ECME class in which students are co-enrolled, and presented through group work, project-based instruction, paired practice and self-paced instruction. Content instruction in English and Spanish is used to achieve the objectives of both ESL and ECME components.

### **IBNA 0500 - I-BEST/ESL Nursing Assistant**

**0 credit hour(s)**

ESL for the Nursing Assistant Program develops English language skills needed to pass the CNA course, pass the state certification exam and to work successfully as a Certified Nursing Assistant. Language instruction is contextualized within the framework of the CNA class in which students are co-enrolled, and presented through group work, paired practice and self-paced instruction.

## **English for Speakers of Other Languages**

### **ESOL 0196-0996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **ESOL 0350 - Advanced Listening and Speaking Skills for Speakers of Other Languages**

**3 credit hour(s)**

**Prerequisite:** Appropriate placement score.

**Recommended:** ESL 0650.\*

Provides speakers of other languages the opportunity to develop listening and speaking skills in an academic setting. Students will practice note-taking skills, identify key points in a presentation or lecture, participate in academic discussions and debates, complete

short oral presentations, and improve pronunciation.

\* Students should have advanced ESL listening/speaking/reading/writing skills to be successful in ESOL 0350.

## **ESOL 0450 - Introduction to College English for Speakers of Other Languages**

**3 credit hour(s)**

**Prerequisite:** Appropriate placement score.

**Recommended:** ESL 0650.\*

Provides speakers of other languages the opportunity to develop language and self-advocacy skills for success in college and the workplace.

\* Students should have advanced ESL listening/speaking/reading/writing skills to be successful in ESOL 0450.

## **ESOL 0551 - Basic Reading/Writing Skills for Speakers of Other Languages**

**3 credit hour(s)**

**Recommended:** ESL 0650 + ESOL 0450 or appropriate placement score. \*

Provides speakers of other languages the opportunity to develop academic language skills. Students practice reading strategies, improve their sentence and paragraph skills in organized pieces of writing, use computers for word processing and research, practice oral language skills, and improve English language usage.

\* Students should have advanced ESL listening/speaking/reading/writing skills to be successful in ESOL 0551.

## **ESOL 0651 - Intensive Grammar for Speakers of Other Languages**

**3 credit hour(s)**

**Prerequisite:** ESOL 0551 or appropriate placement score.

Provides speakers of other languages the opportunity to analyze English sentences based on the principles and concepts of grammar. Students will study grammatical rules of academic English, with emphasis on those elements that relate to writing, such as punctuation and capitalization.

## **ESOL 0971 - Integrated Reading and Writing for Speakers of Other Languages I**

**3 credit hour(s)**

**Prerequisite:** Appropriate placement score.

**Recommended:** ESL 0350, ESOL 0450, ESOL 0551, ESOL 0651.\*

Introduces speakers of other languages to various work-related and academic texts and assists students in comprehending these texts and in constructing effective work-related and academic writings of their own. Students develop strategies to improve their reading and writing skills. Students learn the fundamentals of sentence structure as well as grammar and mechanics.

\* It is recommended that students take ESOL 0350, ESOL 0450, ESOL 0551, and ESOL 0651 before they take ESOL 0971 and ESOL 0981 because students need a foundation in academic language.

**Note(s):**

- ESOL 0971 is equivalent to IRW 0970

## **ESOL 0981 - Integrated Reading and Writing for Speakers of Other Languages II**

**3 credit hour(s)**

**Prerequisite:** ESOL 0971 or IRW 0970 or appropriate placement score.

**Recommended:** ESL 0350, ESOL 0450, ESOL 0551, ESOL 0651.\*

Focuses on critical reading, reasoning, and writing skills to prepare speakers of other languages for college-level course work. Students develop the reading comprehension and critical thinking skills needed for academic success. Students apply the fundamentals of sentence structure and paragraph development to their own writing and develop their skills in grammar and mechanics.

\* It is recommended that students take ESOL 0350, ESOL 0450, ESOL 0551, and ESOL 0651 before they take ESOL 0971 and ESOL 0981 because students need a foundation in academic language skills to become proficient in English.

**Note(s):**

- ESOL 0981 is the equivalent of IRW 0980

## **ESOL 1001 - Academic and Workplace Communication for Specific Purposes**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or ESOL 0971 or appropriate placement score.

**Recommended:** ESL 0650 + ESOL 0350 + ESOL 0450 + ESOL 0551 + ESOL 0651.\*

This course provides nonnative English speakers with opportunities to develop listening and speaking skills in the context of a specific industry and/or for academic success. Students use industry or academic field-specific terminology to practice pronunciation, intonation and public speaking skills. Short lectures from native speakers in the specific industry or academic field provide the cultural context for the course.

\* It is recommended that students take ESL 0650, ESOL 0350, ESOL 0450, ESOL 0551, and ESOL 0651 before they take ESOL 1001, ESOL 1010, ESOL 1020, and ESOL 1030 because students need a foundation in academic language skills to become proficient in English.

## **ESOL 1010 - Reading and Vocabulary for Specific Purposes**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or ESOL 0971 or appropriate placement score.

**Recommended:** ESL 0650 + ESOL 0350 + ESOL 0450 + ESOL 0551 + ESOL 0651.\*

This course for nonnative English speakers focuses on the development and application of a variety of reading strategies to comprehend advanced authentic texts, documents, and materials relevant to students' academic and/or professional needs. Students learn and practice critical reading and thinking skills and focus on building academic and/or industry-specific vocabulary to expand their lexical repertoires.

\* It is recommended that students take ESOL 0350, ESOL 0450, ESOL 0551, and ESOL 0651 before they take ESOL 1001, ESOL 1010, ESOL 1020, & ESOL 1030 because students need a foundation in academic language skills to become proficient in English.

## **ESOL 1020 - English Composition and Grammar for Specific Purposes**

**4 credit hour(s)**

**Prerequisite:** IRW 0970 or ESOL 0971 or appropriate placement score.

**Recommended:** ESL 0350, ESOL 0450, ESOL 0551, ESOL 0651.\*

This course provides nonnative English speakers with an opportunity to practice grammar in the context of industry-specific writing tasks. Students analyze the grammatical components of advanced texts while generating writing of their own based on occupational performance requirements and industry standards.

\* It is recommended that students take ESOL 0350, ESOL 0450, ESOL 0551, and ESOL 0651 before they take ESOL 1001, ESOL 1010, ESOL 1020, & ESOL 1030 because students need a foundation in academic language skills to become proficient in English.

## **ESOL 1030 - U.S. Culture and Contemporary Issues for Specific Purposes**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or ESOL 0971 or appropriate placement score.

**Recommended:** ESL 0650 + ESOL 0350 + ESOL 0450 + ESOL 0551 + ESOL 0651.\*

This course for nonnative English speakers focuses on U.S. cultural norms, behaviors, and expectations as they relate to professional and interpersonal communication. Students develop their English language skills to communicate more effectively in multi-cultural environments. Emphasis is placed on contemporary issues as the context for improving English fluency and confidence.

\* It is recommended that students take ESOL 0350, ESOL 0450, ESOL 0551, and ESOL 0651 before they take ESOL 1001, ESOL 1010, ESOL 1020, & ESOL 1030 because students need a foundation in academic language skills to become proficient in English.

## **ESOL 1096-1996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **ESOL 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Film

### FILM 1001 - Introduction to Film and Media Workflow

**3 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Introduces students to the terminology, job categories and descriptions as well as the necessary protocols/set etiquette required to work in the film industry.

### FILM 1003 - Basic Film/Media Production

**3 credit hour(s)**

**Pre- or corequisite:** FILM 1001 + FILM 1015 + FILM 1110.

Explores the various crafts and skills of a film crew that pertain to working on a studio set.

**Note(s):**

- 30 theory hours
- 45 lab hours

### FILM 1004 - Shooting Your Story

**3 credit hour(s)**

This three-credit online class covers basic filmmaking shot composition and story development for different movie genres. Using straightforward technologies, students will explore the essential movie-making elements: lighting, sound, and set decoration, that support the camera department as they develop their own visual story.

**Note(s):**

- 30 theory hours
- 45 lab hours

### FILM 1007 - Pre-Visualization and Storyboarding

**3 credit hour(s)**

**Prerequisite:** IT 1010.

Students will create rough images of shots for movie sequences using standard storyboarding techniques and pre-viz “software”.

**Note(s):**

- 30 theory hours
- 45 lab hours

### FILM 1009 - Post Production and Editing

**4 credit hour(s)**

**Prerequisite:** FILM 1292 + IT 1010.

Students will be introduced to industry-standard post- production techniques and editing techniques and software.

**Note(s):**

- 30 theory
- 90 lab hours

### FILM 1015 - Film On-Set

**4 credit hour(s)**

**Pre- or corequisite:** FILM 1001 + FILM 1003 + FILM 1110.

Students will receive both lecture and hands-on instruction focused on the production of film and electronic media projects in studio settings. Skill areas will include: lighting, sound, camera operation hair, make-up, wardrobe, grip, art, script supervision.

**Note(s):**

- Previously FILM 1092

- 45 theory hours
- 45 lab hours

### **FILM 1096-1996 - Special Topics**

#### **1-6 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **FILM 1110 - Film Location**

#### **4 credit hour(s)**

**Pre- or corequisite:** FILM 1001 + FILM 1003 + FILM 1015.

Students will receive both lecture and hands-on instruction focused on the production of film and electronic media projects in remote or on-location settings. Skill areas will include: lighting, sound, camera operation hair, make-up, wardrobe, grip, art, script supervision, location scouting and management.

#### **Note(s):**

- 45 theory hours
- 45 lab hours
- Previously FILM 1192

### **FILM 1210 - Production Planning**

#### **3 credit hour(s)**

**Prerequisite:** FILM 1110.

**Pre- or corequisite:** FILM 1220 + FILM 1230 + FILM 1240.

Students will develop skills related to the planning and pre-production process on film and other electronic media projects. Planning concepts include script development, location scouting, scheduling, budgeting.

#### **Note(s):**

- 30 theory hours
- 45 lab hours

### **FILM 1220 - Pre-Production**

#### **4 credit hour(s)**

**Pre- or corequisite:** FILM 1210 + FILM 1230 + FILM 1240.

Students will develop skills related to the pre-production process on film and other electronic media projects. Planning concepts include script breakdown, casting, securing locations, crew designations, scheduling, budgeting.

#### **Note(s):**

- 45 theory hours
- 45 lab hours

### **FILM 1230 - Production**

#### **4 credit hour(s)**

**Pre- or corequisite:** FILM 1210 + FILM 1220 + FILM 1240.

Students will develop skills related to the production process on film and other electronic media projects. Production concepts include: story board, day-to-day scheduling, project management, equipment scheduling, location, crew and actor scheduling, shooting schedules.

#### **Note(s):**

- 45 theory hours
- 45 lab hours

### **FILM 1240 - Post-Production**

#### **3 credit hour(s)**

**Pre- or corequisite:** FILM 1210 + FILM 1220 + FILM 1230.

Students will develop skills related to the post-production process on film and other electronic media projects. Post-Production concepts include: selection and scheduling of editor, data capture and management, convergence of script supervisor, sound mixer and story board materials, dailies, rough cut, schedule, budgeting.

**Note(s):**

- 30 theory hours
- 45 lab hours

**FILM 1292 - Camera work for Editors**

**3 credit hour(s)**

**Prerequisite:** FILM 1110.

Students will perform as camera operators in order to understand the vision” that the project’s creator had in mind. The experience enhances the Editor’s decision making during post-production.”

**FILM 1315 - Storyboarding**

**2 credit hour(s)**

**Prerequisite:** FILM 1110.

**Pre- or corequisite:** FILM 1325 + FILM 1335 + FILM 1345 + FILM 1390.

Introduces concepts required to create a narrative element related to production of projects in various forms of electronic media. The process includes conceptualization, planning, structure, workflow and use of software. Write it, show it, picture it.

**Note(s):**

- 15 theory hours
- 30 studio hours

**FILM 1325 - Camera Operation**

**2 credit hour(s)**

**Pre- or corequisite:** FILM 1315 + FILM 1335 + FILM 1345 + FILM 1390.

A hands-on course that focuses on industry standard digital camera operation. The course will cover both the technology and procedures related to camera operation and the use and development of cinematography and technique.

**Note(s):**

- 15 theory hours
- 45 lab hours

**FILM 1335 - Post-Production Editing**

**3 credit hour(s)**

**Pre- or corequisite:** FILM 1315 + FILM 1325 + FILM 1345 + FILM 1390.

A lab-based course that focuses on industry standard post-production processes, techniques and software applications. Learning experiences are project based.

**Note(s):**

- 30 theory hours
- 45 lab hours

**FILM 1345 - Sound Recording and Design**

**2 credit hour(s)**

**Pre- or corequisite:** FILM 1315 + FILM 1325 + FILM 1335 + FILM 1390.

The course focuses on the technical and creative principles of electronic media and sound capture, post-production and sound design for a variety of electronic media platforms.

**Note(s):**

- 15 theory hours
- 45 lab hours

## **FILM 1390 - Professional Portfolio**

**2 credit hour(s)**

**Pre- or corequisite:** FILM 1315 + FILM 1325 + FILM 1335 + FILM 1345.

A capstone course in which students will prepare a professional portfolio of their work and submit to critique by industry professionals. Basic skills related to networking, resume preparation, entrepreneurship and project management will also be stressed.

## **FILM 1392 - Editing Project**

**3 credit hour(s)**

**Pre- or corequisite:** FILM 1292.

Students will gain practical experience by editing and re-editing various projects to accomplish the Director's vision.

**Note(s):**

- 90 lab hours

## **FILM 2001 - Art Department**

**3 credit hour(s)**

**Prerequisite:** FILM 1001.

From props and set dressing to production design – the Art Department sets the look of any production. Explore the responsibilities of the Art Department while considering art history and its influence on production design. Students will learn the basics of props and models and the various functions of the art department in the motion picture industry.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **FILM 2002 - Directing for the Camera**

**3 credit hour(s)**

**Prerequisite:** FILM 1001 + FILM 1003 + FILM 1015 + FILM 1110.

Students will explore related topics from directing actors to camera movement, framing and collaboration with your crew. Students will discuss film clips and interviews with well-known directors and engage in scene work exercises with actors.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **FILM 2005 - Advanced Film Editing**

**3 credit hour(s)**

**Prerequisite:** FILM 1335.

This course presents principles and techniques that allow students to gain advanced experience with hands-on intensives using industry standard post-production applications, and gain competence in the art and application of digital film editing.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **FILM 2010 - Survey of Films and Film Industry**

**3 credit hour(s)**

**Pre- or corequisite:** ENG 1101.

Surveys major films with a focus on artistic, socio-cultural, economic and historic influences.

## **FILM 2095 - Cooperative Education**

**1-12 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. The position is



paid.

### **FILM 2096-2996 - Special Topics**

**1-12 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **FILM 2097 - Independent Study**

**1-12 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student and instructor to define a specific problem in the area of the student's interest and directly related to the program. The student develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

### **FILM 2098 - Internship**

**1-12 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. The position is not paid.

## **Financial Services**

### **FIN 1005 - Financial Services Career Exploration**

**3 credit hour(s)**

To prepare students for a possible career in the financial services industry. Students will have the opportunity to interact with financial industry experts and develop skills and knowledge necessary to obtain employment in the financial industry. Students will also gain personal finance, academic and life skills necessary for successful transition into college and/or future employment.

### **FIN 1010 - Financial Literacy Complete**

**3 credit hour(s)**

**Recommended:** IRW 0980.\*

Introduces students to the basics of money management and financial skills necessary to meet real-world challenges. The course is interactive and will cover concepts and decision making through illustrations and real-life problems. Topics covered include budgeting, managing money, borrowing money and planning for the future.

\* Students should have basic reading and writing skills for this course.

### **FIN 1096-1996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **FIN 1100 - Principles of Banking**

**3 credit hour(s)**

Surveys major aspects of banking from the fundamentals of negotiable instruments to contemporary issues.

### **FIN 1310 - Fundamentals of Risk Management and Insurance**

**3 credit hour(s)**

Explores the business and personal exposures to risk and the concepts and methods of minimizing and insuring against those risks.

### **FIN 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** (ACCT 1110 or ACCT 1112 or ACCT 1115) + FIN 1100 + department approval.

Provides students the opportunity to work a minimum of 135 hours in a new job experience in banking or training-related supervised workstations. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer. The student and employer determine the weekly contact hours.

### **FIN 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **FIN 2097 - Independent Study**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Allows student and instructor to define specific problem in the area of the student's interest and directly related to the program. Student develops and executes a solution using analytical techniques to the problem. An oral presentation may be required.

### **FIN 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** (ACCT 1110 or ACCT 1112 or ACCT 1115) + FIN 1100 + department approval.

Provides students the opportunity to work a minimum of 135 hours in a new job experience in banking or training-related supervised workstations. Students are not paid for their work but are supervised jointly by CNM and the employer. The student and employer determine the weekly contact hours.

### **FIN 2210 - Finance**

**3 credit hour(s)**

**Prerequisite:** (ACCT 1109 or AAS Math Requirement) + (ACCT 1110 or ACCT 1112 or ACCT 1115).

**Recommended:** ACCT 1210.\*

Presents an overview of the major concepts of finance focusing on the financial system and investments.

\* Students should have basic managerial accounting knowledge for this course.

## **Fire Science**

### **FS 1010 - Introduction to Fire Science**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Presents an overview of the fire service to include protection system, history of the fire service, fire protection careers, employment requirements, fire service organizations, firefighting equipment and facilities and chemistry and behavior of fire.

### **FS 1096-1996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **FS 1504 - Wildland Firefighting**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Students will gain knowledge in wildland fire standards, techniques and suppression methods associated with various fuel types, weather and topography. In addition, students will also gain knowledge in fireline references and explore the techniques associated with wildland structural defense. Students will gain a working knowledge of fire behavior and fire control techniques needed to carry out assigned wildland fire tasks. Students successfully completing the course will receive S-130, S-190, I-100, and L-180 certificates recognized by the National Wildfire Coordination Group (NWCG).

**FS 1512 - Building Construction****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces building construction with emphasis on structural elements, construction materials, construction techniques, fire loading, fire resistance, fire spread and growth in buildings and fire division operations in various building types. Emphasizes fire effects on building structural components.

**FS 1544 - Fire Service Instructor I****3 credit hour(s)**

This 45 hour course is designed to train the student as outlined in NNFPA 1041 Fire service Professional Qualifications. Course includes IFSAC Certification, It will teach instructors and trainers how to organize and teach a course effectively using existing lesson plans. Upon successful completion of this course, the student will be able to make an effective classroom presentation based on appropriate lesson plans.

**FS 1592 - Wildland Firefighter Technical Skills Development****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

This course is designed to develop, improve and enhance the technical skills needed to function as an effective wildland firefighter. Students should expect to participate in arduous field activities that will include working with hand tools, constructing fireline, constructing helispots, tool maintenance, hoselays, portable tanks, and emergency medical evacuation procedures. In addition, students will develop their skills and knowledge necessary to properly use and maintain a handheld, field programmable radio. Finally, students will complete a National Wildfire Coordination Group (NWCG) course related to fire origin scene protection. There are lab fees associated with this course. To participate in this course, students must have the required fire personal protective equipment. PPE includes: hard hat- (CNM approved), Nomex pants (or Department approved pants), CNM approved long-sleeved shirt, leather boots, eye protection, ear protection, and canteens for drinking water. National Wildfire Coordination Group Certificate: FI-110 Wildland Fire Origin Protection

**FS 1610 - Principles of Fire and Emergency Services Safety and Survival****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

**FS 1728 - Annual Wildland Fire Refresher****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

Students will participate in the National Wildfire Coordination Group (NWCG) RT-130 Annual Fireline Safety Refresher. This class is designed to provide up-to-date fireline safety information to all firefighters participating in wildland fire or prescribed fire operations. In addition, it is a required annual course for every firefighter participating in wildland fire activities. NWCG Certificates: RT-130 Annual Fireline Safety Refresher.

**FS 1817 - Wildland Emphasis****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

This course will provide students with beginning and intermediate incident command system functions and responsibilities. The course will include I-200, I-300, IS-700 and IS-800. I-200 will provide students with knowledge in incident management, organization development, incident facilities and common responsibilities. I-300 will provide students with intermediate training in staffing,

organization, resource management, air operations, and planning. In addition, students will also complete the federally required IS-700 and IS-800 courses. This course is also considered “all - risk” training. A total of four nationally recognized certificates will be issued to students successfully meeting the requirements of the course. Students successfully completing the course will receive I-200, I-300, IS-700 and IS-800 certificates recognized by both the National Wildfire Coordination Group (NWCG) and the Federal Emergency Management Agency (FEMA).

## **FS 1820 - Hazardous Materials Awareness and Operations**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

This course will fulfill the prerequisite classes for the Core Firefighter I. This course is designed to train the student to Awareness and Operations Level as outlined in NFPA 472 Standard for Competence of Responders to hazardous materials/Weapons of Mass destruction Incidents and OSHA 29 CFR 1910.120. Course includes IFSAC Certification.

## **FS 2001 - Fire Protection Systems**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Presents an in-depth study of fire protection system design and operation. Discusses a variety of fire suppression and detection systems.

## **FS 2008 - Fire Protection Hydraulics and Water Supply**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.

## **FS 2015 - Firefighter I**

**5 credit hour(s)**

**Pre- or corequisite:** HLTH 1001 + FS 1817 + FS 1820 + department approval.

This course meets the requirements of the National Fire Protection Association (NFPA) 1001 Standard for Firefighter Professional Qualifications. Students must pass both a written and practical state-mandated exam. Upon successful completion of both exams students will be awarded an IFSAC certificate that indicates he/she is a nationally certified Firefighter I.

**Note(s):**

- 45 theory hours
- 90 lab hours

## **FS 2095 - Cooperative Education**

**3 credit hour(s)**

Employs students at an approval program-related worksite and applies learned theory based upon goals/objectives of the Fire Science program.

## **FS 2096-2996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **FS 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides opportunity for the student to work as a volunteer in an appropriate fire division. Position is not paid.

## **FS 2210 - Wildland Fire Management**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

This course will explore the history of wildland fire management as it relates to significant wildland fires that have influenced changes in safety practices, protocols and policy direction. Students will also become efficient in using position task books, Field Manager's Course Guide and the Wildland Fire Qualification System Guide. Finally, students will identify fuel models and explore fuel mitigation techniques used to reduce the potential for high intensity wildfires.

**FS 2240 - Wildland Fire Ignition Operations****2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 2815.

This course introduces common firing devices and general firing operations and techniques. The course provides students with important information concerning general tasks required to be successful in firing operations. Finally, the course will prepare students with the skills necessary to participate in firing or prescribed fire operations. Lab fees required for personal protective equipment. National Wildfire Coordination Group Certificates: S-234 Ignition Operations (if the student meets NWCG minimum requirements-identified below).

**FS 2402 - Managing Community Fire Protection****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Covers legal aspects, program and personnel management, emergency management, EMS and rescue services, code administration, alternative delivery systems, training and trends in the fire service.

**FS 2416 - Command Strategy and Tactics I****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment and extinguishing agents on the fire ground.

**FS 2417 - Command Strategy and Tactics II****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Includes structural firefighting operations, urban search and rescue, aircraft emergencies and firefighter safety.

**FS 2418 - Command Strategy and Tactics III****1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Covers specific incident management techniques including basic fire ground operations involving high occupancy use and mass casualty incidents.

**FS 2422 - Fire Behavior and Combustion****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Explores the theories and fundamentals of how and why fires start, spread and how they are controlled.

**FS 2530 - Fire Officer 1****3 credit hour(s)**

**Prerequisite:** Department approval.

The objective of this course is to provide entry-level training in company operations and administration at the first-line supervisory level. Upon successful completion of this course the student will be able to find ways to effectively manage human resources; community public relations budgets, reports and planning.

**FS 2625 - Fire Officer 2****3 credit hour(s)**

**Prerequisite:** Department approval.

This course is structured for the fire officer who is ready to assume a leadership role by moving into the middle management level. This course gives the officer more knowledge of management and supervision so that he/she can make basic evaluations of employee relations and assume a proactive role in their department. This course expands on the knowledge base attained in Fire Officer I.

### **FS 2640 - Legal Aspects of Fire Science**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces basic legal concepts including tort, liability and standard of care legal considerations as they relate to emergency care providers. Federal, state and local laws will be explored.

### **FS 2792 - Wildland Fire Basic Land Navigation**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

Basic land navigation is an introduction to land navigation skills needed to function as a wildland firefighter. The class begins with a general overview of maps, to include different map types and incident specific maps. Furthermore, students will become skilled in the use of a compass, GPS receiver, clinometer and interpreting topographic maps. Finally, students will also complete Firefighter Math, a course that refreshes firefighters' knowledge of basic math concepts and tools necessary for making math calculations in the field, including those used in mapping. NWCG Certificate: Basic Land Navigation and Firefighter Math.

### **FS 2805 - Public Safety Response to Terrorism**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Provides instruction for first responders in fire service, emergency medicine, law enforcement and security and related fields who investigate, respond to and mitigate the effects of terrorist incidents to protect the public. Topics include terrorism concepts, weapons of mass destruction scenarios, emergency care, incident command and crime scene management and processing.

### **FS 2812 - Fire Investigation**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Focuses on investigative techniques to determine fire cause and origin for structural, vehicle, wildland and hazardous materials fires as well as explosions.

### **FS 2813 - Industrial Fire Protection**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Presents in-depth information regarding industrial loss control concepts focusing on industrial fire and safety hazards, hazardous materials, industrial fire brigades, fire division operations at industrial facilities and NFPP, ISFSI and OSHA fire brigade standards.

### **FS 2814 - Facilities Inspection**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Emphasizes inspections conforming to NFPA 101: Life Safety Code and applicable NFPA fire codes. Covers general and occupancy-specific requirements.

### **FS 2815 - Intermediate Wildland Fire Behavior**

**2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

This course is intended to develop the student's knowledge in wildland fire behavior. This course is based on skills designed to prepare the prospective fireline supervisor to undertake safe and effective fire management operations. Students successfully completing the course will receive one National Wildfire Coordination Group (NWCG) certificate: S-290 Intermediate Wildland Fire Behavior.

## **FS 2820 - Wildland Leadership**

**4 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

This course will be taught as a Hybrid (Blackboard) course which will require students to complete weekly tasks on the Internet. This course will provide students with the tools necessary to gain skill to be an effective leader on the fireline. The course will also improve awareness of human performance issues on the fireline so that individual firefighters can integrate more effectively into teams/crews.

## **FS 2825 - Wildland Fire Advanced Firefighter Development**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score + FS 1504.

This course will prepare students with the skills and knowledge necessary to function as an entry level supervisor on the fireline. Students will gain detailed information pertaining to air operations, use of portable pumps, hose lays and will become proficient in the use of fireline reference materials. To successfully pass this course, students must participate in several competency based evaluations, exercises and Tactical Decision Games using Sand Table Exercises. Lab fees required for personal protective equipment. Students successfully completing the course will receive three National Wildfire Coordination Group (NWCG) certificates: S-270 Basic Air Operations, S-211 Water and Pumps and S-131 Advanced Firefighter.

## **FS 2830 - Wildland Urban Interface Awareness and Strategies**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score + FS 1504.

This course will provide students with the skills necessary to triage and safely engage wildland fires in the wildland urban interface. Students will learn the tools necessary to evaluate, protect, and assess unique hazards. This course will be taught as a hybrid course. In addition, students will meet several times during a semester to participate in Tactical Decision Games/Sand Table Exercises. National Wildfire Coordination Group Certification Standards: Students must be qualified as a Firefighter Type 1 to receive a certificate for this course.

## **FS 2892 - Wildland Firefighter Safety and Survival Skills**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** FS 1504.

This course will provide an overview of LCES (Lookouts, Communications, Escape Routes and Safety Zones). LCES is an essential component of wildland firefighting and establishes the foundation for effective risk management. In addition, this course will also provide students with the skills necessary to develop their situational awareness, improve their hazard identification and mitigation skills and prepare students with the skills necessary to survive an entrapment. Students are expected to be engaged and involved in scenario exercises and case studies. NWCG Certificate: S-134 LCES and S-133 Look Up, Look Down, Look Around and S-132 Standards for Survival.

## **FS 2997 - Independent Study**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem working with an instructor.

## **FS 2999 - Fire Science Capstone Course**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Preparation of a professional portfolio that demonstrates student's mastery of technical and core competencies. (Taken during student's last term)

## **Fitness Technician**

### **FITT 1010 - Foundations of Exercise Science**

**3 credit hour(s)**

**Prerequisite:** BIO 1310 + BIO 1392.

Covers how the human body responds and adapts to exercise and physical training. Students will learn how to apply this information to design exercise programs.

**Note(s):**

- 30 theory hours
- 45 lab hours

**FITT 1072 - Kinesiology**

**3 credit hour(s)**

**Pre- or corequisite:** FITT 1010.

Covers the physiological and kinesiological aspects of muscular fitness training. Special emphasis is placed on designing strength, endurance, hypertrophy and power resistance/weight training programs.

**Note(s):**

- 30 theory hours
- 45 lab hours

**FITT 1090 - Fitness Technician Practicum**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides students with a supervised internship instructing group fitness activity courses and an externship in personal training.

**Note(s):**

- 135 practicum hours

**FITT 1092 - Cardio Kick Boxing**

**1 credit hour(s)**

Provides basic instruction in cardiovascular exercise utilizing non-contact kick boxing movements (punches, kicks, footwork, combinations, etc.) Taught at a beginning level for individuals who have never participated in a cardio kickboxing program.

**Note(s):**

- 45 lab hours

**FITT 1093 - Weight Training for Women**

**1 credit hour(s)**

Introduces weight training designed for women and focuses on the use of free weights and machine exercises to develop muscle endurance, hypertrophy and muscular strength.

**Note(s):**

- 45 lab hours

**FITT 1096-1996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**FITT 1097 - Independent Study**

**1-6 credit hour(s)**

Focuses on a specific problem while working with an instructor.

**FITT 1120 - Principles of Fitness and Wellness**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.



This course covers the basic principles of fitness and wellness. Emphasis is on the 5-health related fitness components and the various dimensions of wellness. Topics covered include behavior modification, motivational components of fitness, risk stratification, exercise programming and modifications.

### **FITT 1192 - Body Sculpting**

#### **1 credit hour(s)**

Utilizes hand-held weights and exercise bands to tone, define, sculpt and strengthen major muscle groups in an aerobic setting.

#### **Note(s):**

- 45 lab hours

### **FITT 1193 - Beginning Step Aerobics**

#### **1 credit hour(s)**

Introduces cardiorespiratory fitness, flexibility and body composition for individuals who have never participated in a step aerobics program.

#### **Note(s):**

- 45 lab hours

### **FITT 1210 - Group Exercise Leadership I**

#### **2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Offers theory, practical skills and experience in guiding groups to safely participate in exercise classes. Prepares students for national certification exams in various fields of group exercise.

#### **Note(s):**

- 15 theory hours
- 45 lab hours

### **FITT 1393 - Flexibility Training**

#### **1 credit hour(s)**

Increases and maintains joint range of motion as well as facilitates relaxation; includes abdominal training.

#### **Note(s):**

- 45 lab hours

### **FITT 1410 - Fireline Fitness**

#### **2 credit hour(s)**

This course will provide students with the knowledge and practical skills necessary to become physically fit in preparation of becoming a firefighter. The class will include both classroom curriculum which will be reinforced by practical exercise skills specific to firefighting. Both classroom and field practicum will focus on the essential components of firefighter fitness to include, aerobics, muscular strength & endurance, core strength and stability and flexibility. In addition, students will learn about firefighter wellness including basic nutritional needs, hydration and rest and include specific preparation for taking the required Work Capacity Test. Students will also be provided opportunities to participate in the Wildland Fitness Assessment Battery (WFAB) to determine their current fitness baseline.

#### **Note(s):**

- 15 hours theory
- 45 hours lab

### **FITT 1492 - Step/Circuit Combo**

#### **1 credit hour(s)**

Uses a combination of step-aerobics and circuit resistance training with hand weights, resistances tubes and fit ball for individuals looking for a cross-training effect. No previous step experience is required.

#### **Note(s):**

- 45 lab hours

### **FITT 1493 - Fit Ball Training**

**1 credit hour(s)**

Uses fit balls, exercise bands, medicine balls and hand weights to improve flexibility, coordination and extremity and core strength.

**Note(s):**

- 45 lab hours

**FITT 1572 - Fitness Assessment and Exercise Prescription****3 credit hour(s)**

**Prerequisite:** MATH 0970 or appropriate placement score + FITT 1010 + FITT 1072.

Covers methods of assessing health status, cardio- respiratory and muscular fitness, flexibility and body composition in apparently healthy individuals and prescribing appropriate exercise programs.

**Note(s):**

- 30 theory hours
- 45 lab hours

**FITT 1575 - Exercise Prescription for Special Populations****3 credit hour(s)**

**Pre- or corequisite:** FITT 1572.

Reviews the indications and contraindications for assessing and prescribing exercise programs for special populations (elderly, prepubescent children, pregnancy, low back pain, diabetes, spinal cord injury, etc.).

**Note(s):**

- 30 theory hours
- 45 lab hours

**FITT 1592 - Step/Kick Combo****1 credit hour(s)**

Uses a combination of step-aerobics and cardio kickbox training for individuals looking for a cross training effect. No previous step experience is required.

**Note(s):**

- 45 lab hours

**FITT 1593 - Hatha Yoga I****1 credit hour(s)**

Introduces various techniques of fitness Yoga. Students are responsible for purchasing their own mats.

**Note(s):**

- 45 lab hours

**FITT 1693 - Core Fitness I****1 credit hour(s)**

Teaches core strength and stabilization as well as improves joint range of motion and facilitate relaxation. Students are responsible for purchasing their own mats.

**Note(s):**

- 45 lab hours

**FITT 1792 - Physical Fitness I****1 credit hour(s)**

Introduces assessment of muscular strength, muscular endurance, cardiorespiratory fitness, flexibility and body composition. Based on the assessments, the student designs and participates in a self-paced exercise program.

**Note(s):**

- 45 lab hours

**FITT 1793 - Core Yoga**

**1 credit hour(s)**

Introduction to the various techniques of Pilates-style mat training and fitness Yoga. Students are responsible for purchasing their own mat.

**Note(s):**

- 45 lab hours

**FITT 1892 - Fitness for Older Adults****1 credit hour(s)**

Focuses on individualized, goal-oriented exercise programs for individuals 50 years of age and older based on assessment of muscular and cardiovascular fitness. Use machines, free weights and stretching activities to improve strength, endurance, range of motion, bone mass, balance and overall well-being. Physician release indicating student's ability to safely participate in moderate intensity physical activity is required.

**Note(s):**

- 45 lab hours

**FITT 1893 - Healing Hatha Yoga Stretch and Breath****1 credit hour(s)**

Applying breathing and concentration, students will work on restoring/maintaining flexibility and strength. This class is ideal for those recovering from injury/illness, people with weight issues and mature person. Students are responsible for purchasing their own mat.

**Note(s):**

- 45 lab hours

**FITT 1992 - Circuit Training****1 credit hour(s)**

Covers structured strength training and aerobics to provide a total body workout within a single format.

**Note(s):**

- 45 lab hours

**FITT 1993 - Ultimate Frisbee****1 credit hour(s)**

Covers rules, techniques and tactics involved in playing Ultimate Frisbee while participating in various conditioning and skill-related drills and semi-competitive games.

**Note(s):**

- 45 lab hours

**FITT 1994 - Running Conditioning****1 credit hour(s)**

Introduces cardio-respiratory fitness, flexibility and body composition for individuals who have never participated in a running program.

**Note(s):**

- 45 Lab Hours

**FITT 2020 - Fundamentals of Yoga Instruction****2 credit hour(s)**

**Prerequisite:** FITT 1593.

Introduces the basics of yoga instruction. This course incorporates both theory concepts and yoga participation.

**Note(s):**

- 15 theory hours
- 45 lab hours

**FITT 2092 - Physical Fitness II**

**1 credit hour(s)**

**Prerequisite:** FITT 1792.

Continuation of FITT 1792.

**Note(s):**

- 45 lab hours

**FITT 2093 - Extreme Conditioning**

**1 credit hour(s)**

Covers highly intense activities that prepare individuals for the CPAT entrance test and the physical training portion of the firefighter academy.

**Note(s):**

- 45 lab hours

**FITT 2096-2996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**FITT 2210 - Group Exercise Leadership II**

**2 credit hour(s)**

**Prerequisite:** FITT 1210 Group Exercise instruction experience in a fitness or health related facility. Focus is on customizing group exercise classes. Students will learn how to create client-centered group exercise classes. Students will learn how to design classes for niche markets. As well as learn how to develop lifestyle-based physical activity classes.

**Note(s):**

- 15 theory hours
- 45 lab hours

**FITT 2292 - Fitness Yoga**

**1 credit hour(s)**

**Prerequisite:** FITT 1593.

Continuation of FITT 1593 - Hatha Yoga I. Students are responsible for purchasing their own mat.

**Note(s):**

- 45 lab hours

**FITT 2293 - Step Challenge**

**1 credit hour(s)**

**Prerequisite:** FITT 1193 or FITT 1592.

A Step Class for the more experienced stepper.

**Note(s):**

- 45 lab hours

**FITT 2392 - Pilates-Style Mat Training**

**1 credit hour(s)**

**Prerequisite:** FITT 1693.

Continuation of FITT 1693 - Core Fitness I. Students are responsible for purchasing their own mat.

**Note(s):**

- 45 lab hours

## **FITT 2410 - Practical Application of Personal Training Skills**

**2 credit hour(s)**

**Prerequisite:** FITT 1210.

Work experience in a fitness or health related facility. Focus is on the business of personal training. Student will learn how to create client-centered exercise programs. Emphasis will be on proper exercise order and progression. Department Approval is required.

**Note(s):**

- 15 theory hours
- 45 lab hours

## **FITT 2510 - Stress Management**

**3 credit hour(s)**

**Prerequisite:** FITT 1010 + FITT 1120.

Provides exposure to a holistic approach to stress management. Emphasis will be on the relationship between lifestyle and health. Students will learn both cognitive skills and relaxation techniques with the intention of preventing and/or alleviating the physical symptoms of stress. This is an interactive course in which students will incorporate stress reducing techniques into their own lives.

## **FITT 2610 - Prevention and Treatment of Athletic Injuries**

**3 credit hour(s)**

**Prerequisite:** FITT 1010 + FITT 1072.

This course is designed to introduce the necessary skills and competencies required for treatment of basic athletic injuries. Students will learn how to identify the major and minor injuries that may occur through sports/exercise participation. Students will also learn how to evaluate sports injuries and recommend care. Wrapping and taping techniques for injury prevention and care will also be emphasized.

## **FITT 2620 - Weight Management**

**3 credit hour(s)**

**Prerequisite:** FITT 1572.

Examines the multifactorial aspects of obesity, maintenance of health weight and the relationship of weight status and chronic disease prevention. The importance of regular physical activity, health nutrition and health behavior change to prevent/reduce obesity in children and adults is emphasized. Traditional nutrition and exercise theories will be discussed as well as current popular diet and exercise trends.

# **French**

## **FREN 1101 - Beginning French I**

**4 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or CSE 1101 or appropriate placement score.

Introduces development of French language skills emphasizing listening, comprehension and speaking.

## **FREN 1102 - Beginning French II**

**4 credit hour(s)**

**Prerequisite:** FREN 1101 or department approval.

Continues course of study begun in FREN 1101.

## **FREN 1103 - French Conversation**

**3 credit hour(s)**

**Prerequisite:** FREN 1102.

Provides students with practice in speaking French at a beginning level. It is designed to give students basic conversational skills while reviewing previously studied structures and vocabulary. The main focus is to provide students with the confidence and language necessary to get along in French-speaking environment, as well as expose them, in a more in-depth way, to various aspects of Francophone culture.

## **FREN 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** Varies.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **FREN 2201 - Intermediate French**

**4 credit hour(s)**

**Prerequisite:** FREN 1102 or department approval.

Emphasizes enhancement of skills from FREN 1102 and further knowledge of the language and culture of France.

### **FREN 2202 - Intermediate French II**

**4 credit hour(s)**

**Prerequisite:** FREN 2201 or department approval.

Continues course of study begun in FREN 2201.

## **General Education (non-credit)**

### **GECK 0500 - Computer Keyboarding**

**0 credit hour(s)**

Computer Keyboarding provides instruction in computer skills and prepares students for the computer-based high school equivalency exams. Satisfactory completion is indicated by the ability to type 20 words per minute, send electronic messages, compose, edit and print within a word processing program, and operate within the Windows environment.

### **GELA 0500 - Multi-level Language Arts**

**0 credit hour(s)**

This course is for students preparing for the high school equivalency exams. Emphasis is placed on improving reading and writing skills while studying the content areas of social studies, science, literature, and technical/workplace subjects. Informational texts will be used for approximately 75% of this course, with equal time spent on social studies, science, and technical/workplace topics. A minor theme of literature will be included. A multi-level approach to teaching, accommodating students from 4th to 12th grade reading levels, will be taken as needed.

### **GELA 0550 - Language Arts I**

**0 credit hour(s)**

This is a low intermediate level reading and writing course. It includes reading practice in constructing meaning from both life skills and prose selections, with an emphasis on vocabulary development. Also provides writing practice with a variety of language usage activities including mechanics, sentence formation, and paragraph development.

### **GELA 0750 - Language Arts II**

**0 credit hour(s)**

Provides reading and writing instruction at the high intermediate level in preparation for the HSE exams. Introduces reading in science, social studies, and literature. Includes practice in comprehension, application, analysis, and synthesis. Writing includes the study of sentence and paragraph structure, usage, language mechanics, and organization. Introduces the HSE essay.

### **GELA 0950 - Language Arts III**

**0 credit hour(s)**

This course is for students preparing for the high school equivalency exam. Emphasis is placed on improving reading and writing skills while studying the content areas of social studies, science, literature, and technical/workplace subjects. Informational texts will be used for approximately 75% of this course, with equal time spent on social studies, science, and technical/workplace topics. A minor theme of literature will be included. Students will practice reading at or above the 9–12th grade levels during the term.

### **GEMA 0450 - Math Fundamentals**

**0 credit hour(s)**

Reviews the language and basic concepts of math as they relate to addition, subtraction, multiplication and division using whole numbers and decimals.

## **GEMA 0500 - Multi-level Math**

### **0 credit hour(s)**

Math review: number theory, word problems, fractions, decimals, percents, proportions, measurement, geometry introduction, algebra introduction, data analysis.

## **GEMA 0550 - Decimals, Fractions and Measurements**

### **0 credit hour(s)**

Covers low intermediate math concepts focusing on decimals, fractions, measurement applications, data analysis, basic geometry and some pre-algebra.

## **GEMA 0750 - Proportions, Percentages and Data Analysis**

### **0 credit hour(s)**

Presents high intermediate math concepts focusing on proportions, percentages, data analysis, basic geometry and algebra. Includes a thorough review of fractions and decimals.

## **GEMS 0500 - General Education Multi-Subject**

### **0 credit hour(s)**

**Prerequisite:** TABE test reading score 461-800.

This is a multi-level, multi-subject course for students preparing for the high school equivalency exam. The course includes:

- Math review (number theory, word problems, fractions, decimals, percentages, proportions, measurement, geometry, algebra, data analysis)
- Communications skills (grammar and punctuation; sentence, paragraph, and writing)
- Reading comprehension (in science, social studies, math, and language arts)

## **GEOR 0100 - General Education Orientation**

### **0 credit hour(s)**

This course provides an orientation to Central New Mexico Community College's High School Equivalency program. The course includes information about study strategies, goal setting, educational plans, and campus resources that will assist you with your educational and career goals.

### **Note(s):**

- This course will not be offered after Summer 2016

## **GESC 0650 - General Education Science**

### **0 credit hour(s)**

This course is for students preparing for the science portion of the high school equivalency exam. Emphasis is placed on reasoning and critical thinking skills while studying the content area of science. Understanding and expressing scientific information in textual, graphic, and numeric formats will be emphasized. Students will practice locating, reading, and interpreting scientific information from a variety of sources.

## **GESP 0500 - Spanish HSE Prep**

### **0 credit hour(s)**

Prepares students for the HSE exams conducted in Spanish, including instruction in math, writing, grammar and reading.

## **GESS 0650 - General Education Social Studies**

### **0 credit hour(s)**

This course is for students preparing for high school equivalency exams. Emphasis is placed on improving reading and writing skills while studying in the content area of social studies. Students will practice reading at approximately 8-10th grade levels during the term.

## **General Honors**

### **GNHN 1121 - General Honors: The Ancient Legacy**

#### **3 credit hour(s)**

**Prerequisite:** Department approval.

Introduces analysis of classic texts of the Greek, Hebrew, Roman and Christian traditions: ideas about virtue, knowledge, politics, religious faith and education.

### **GNHN 1122 - General Honors: The Modern Legacy**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Introduces analysis of classic texts of Western culture from the Renaissance through the early 20th century: ideas about the individual, society, state, history, nature, progress and religion.

### **GNHN 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **GNHN 2211 - Utopian and Dystopian Thought**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Examines utopian and dystopian texts from a social, political, economic, and environmental perspective.

### **GNHN 2221 - Understanding Evil**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Explores the human causes and responses to the evil so abundant in our world. Uses resources in history, sociology, psychology, philosophy and religion to begin to understand what motivates and enables these acts and what makes people choose to participate, remain bystanders, or become rescuers.

## **General Trades Apprenticeship**

### **GTAP 1096-1996 - Special Topics**

**1-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **GTAP 1115 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

### **GTAP 1125 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

### **GTAP 1215 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.



## **GTAP 1225 - General Trades Apprenticeship**

**5 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

## **GTAP 1315 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

## **GTAP 1325 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

## **GTAP 1415 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

## **GTAP 1425 - General Trades Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the general trades industry or department approval.

Provides 75-105 hours of classroom instruction covering safety, shop math, code, blueprint reading and other related instruction.

# **Geographic Information Systems**

## **GIS 1001 - Introduction to GIS**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Introduces concepts of Geographic Information Systems including applications, components, mapping, data acquisition and data capture. Laboratory component consists of exercises clearly demonstrating a number of typical uses for GIS software. Emphasis on understanding general concepts and theories that can be carried over to any number of existing GIS software packages. Global positioning system hardware and software also introduced.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **GIS 1002 - Fundamentals of Geospatial Technology**

**3 credit hour(s)**

**Pre- or corequisite:** IT 1010.

Introduction to the fundamentals of Geospatial Technology, including Geographic Information Systems (GIS), Global Positioning Systems (GPS), cartography, remote sensing, and spatial analysis Course content is based upon the United States Department of Labor's Geospatial Technology Competency Model for entry level geospatial occupations including Geospatial or GIS Technicians and Technologists.

## **GIS 1005 - CAD for Surveying and GIS**

**3 credit hour(s)**

**Pre- or corequisite:** CAD 1001.

Computer-aided drafted for civil engineering, surveying and land development to create and edit point data, parcel area computations and boundary information.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 1006 - Land Information Systems****1 credit hour(s)**

**Pre- or corequisite:** GIS 1001 or department approval.

This course introduces students to cadastral concepts including land surveys, deeds, survey plats and land record research. This course will also introduce students to the use of Geographic Information Systems software to manage and analyze cadastral data.

**GIS 1008 - Land Information Systems****3 credit hour(s)**

**Pre- or corequisite:** GIS 1001.

This course introduces students to cadastral concepts including land surveys, deeds, survey plats and land record research. This course will also introduce students to the use of Geographic Information Systems software to manage and analyze cadastral data.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 1010 - Remote Sensing****3 credit hour(s)**

**Prerequisite:** GIS 1001.

Introduces students to basic remote sensing concepts and explores the applications of current technology. Topics to be covered will include basic energy theory, photo interpretation, common image analysis techniques and algorithms, and image classification using GIS and remote sensing software.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 1092 - Map Use and Geospatial Technologies****1 credit hour(s)**

This course is an introduction to maps, map reading and map making with an introduction to geospatial technologies including GPS, GIS, and remote sensing. Students will learn map reading skills, orienteering and basic GPS use for land navigation.

**GIS 1096-1996 - Special Topics****1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**GIS 2001 - Intermediate GIS****3 credit hour(s)**

**Prerequisite:** GIS 1001.

Builds upon concepts introduced in GIS 1001, and introduces vector and raster analysis procedures commonly utilized in Geographic Information Systems.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 2007 - GIS Applications**

**3 credit hour(s)**

**Prerequisite:** GIS 1001 or department approval.

Builds on concepts introduced in GIS 1001 and introduces GIS applications emphasizing 3D visualization, network analysis, scripting and GIS database concepts.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 2008 - GPS Field Mapping****2 credit hour(s)**

**Prerequisite:** GIS 1001.

Covers field mapping techniques for developing GIS databases. Concepts include satellite-based hardware and related concepts, data dictionary design and implementation, GPS data compilation and map production. Emphasis on mapping-grade applications.

**Note(s):**

- 15 theory hours
- 45 lab hours

**GIS 2011 - Remote Sensing and Image Processing****3 credit hour(s)**

**Prerequisite:** GIS 1001.

Introduces students to basic remote sensing concepts and explores the applications of current technology. Topics to be covered will include basic energy theory, photo interpretation, common image analysis techniques and algorithms, and image classification using GIS and remote sensing software.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 2020 - Trends in Geospatial Technology****3 credit hour(s)**

**Prerequisite:** GIS 1001.

Examines emerging trends in geospatial hardware and software applications such as open source, web applications and others. Students will apply technology in lab exercises using real-world data. Topics will vary by semester.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 2030 - GIS Project Design****3 credit hour(s)**

**Prerequisite:** GIS 2007 or department approval.

Applies knowledge gained from previous courses to development and implementation of GIS projects. Project development will encompass the full range of procedural approaches from planning, data acquisition, analysis, output and presentation.

**Note(s):**

- 30 theory hours
- 45 lab hours

**GIS 2092 - GPS Field Mapping****1 credit hour(s)**

**Prerequisite:** GIS 1001.

Covers field mapping techniques for developing GIS databases. Concepts include satellite-based hardware and related concepts, data dictionary design and implementation, GPS data compilation and map production. Emphasis on mapping-grade applications. (0 theory hours/45 lab hours)

**Note(s):**

- Previously GIS 2010

**GIS 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. The position is paid.

**GIS 2096-2996 - Special Topics**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**GIS 2097 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student and instructor to define a specific problem in the area of the student's interest and directly related to the program. Then student develops and executes a solution using analytical techniques appropriate to the problem. An oral presentation may be required.

**GIS 2098 - Internship**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on an intern basis in an appropriate training program. The position is not paid.

## Geography

**GEOG 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**GEOG 1101 - Physical Geography**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** GEOG 1192.\*

This course introduces the physical elements of world geography through the study of climate and weather, vegetation, soils, plate tectonics, and the various types of landforms as well as the environmental cycles and the distributions of these components and their significance to humans.

\* It is recommended that students take GEOG 1192 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

**GEOG 1102 - Human Geography**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Introduces the human elements of world geography, providing a systematic analysis of world population, religion, language, ethnicity, economic development, political units and resource issues.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **GEOG 1192 - Physical Geography Lab**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** GEOG 1101.

This laboratory course introduces the physical elements of world geography and the study of climate and weather, vegetation, soils, plate tectonics, various landforms, the environmental cycles and spatial distributions of these components through the use of maps, aerial photographs, and laboratory specimens.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **GEOG 1950 - Humans' Role in Changing the Face of the Earth**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course is a survey of social and scientific aspects of environmental issues related to the degradation of land, air and water resources from global, regional and local perspectives.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **GEOG 1960 - Geography of Food**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course will cover the origins of the food we eat, its geographic role in human history, and its cultural importance in societies. We will look at the state of our food, its production and availability in the world today, in the U.S. vs. the rest of the world, its relevance to the economy, its impact on the environment, and its effect on nutrition.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **GEOG 2096-2996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **GEOG 2201 - World Regional Geography**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Combines elements of GEOG 1101 and GEOG 1102 to study the global inter-relationships of the physical environments and cultural characteristics, including ethnicity, population and development, on a regional basis.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **GEOG 2275 - Cartography**

**3 credit hour(s)**

**Prerequisite:** GEOG 1101 or GEOG 1102.

Covers the basic history of map-making and the various projections. Introduces basic concepts and techniques for the manipulation, analysis and graphic representation of spatial information. Includes processing, compilation and symbolization of spatial data and the application of related statistical techniques. Presents effective map layout and recent cartographic techniques.

## **GEOG 2510 - Meteorology**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course provides an introductory presentation of basic meteorological processes including solar radiation, the greenhouse effect, temperature, pressure, wind patterns, hydrosphere/atmosphere interactions, precipitation, air masses, and weather disturbances.

## **Health Information Technology**

### **HIT 1015 - Introduction to Coding**

**3 credit hour(s)**

**Prerequisite:** HIT 1020 + (BIO 1310 + BIO 1392) or (BIO 2210 + BIO 2310).

**Pre- or corequisite:** HIT 1030.

Provides an overview of Coding. Focuses on the guidelines and conventions used in coding diagnoses and procedures using the International Classification of Diseases (ICD) Clinical Modifications (CM), Volumes 1, 2 and 3. Using case scenarios, students interpret medical record information, choose the required coding classification and assign and sequence codes.

### **HIT 1020 - Medical Terminology and Anatomy**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Covers the study of the language of medicine, focusing on prefixes, suffixes, word roots and their combining forms. Course includes word construction, spelling, usage, comprehension and pronunciation. Systems approach is used to present anatomy and physiology, symptomatology, pathology and diagnostic/surgical procedures.

### **HIT 1030 - Health Data Content and Structure**

**4 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Presents an overview of health care delivery and examines the role of various providers and disciplines throughout the continuum of health care services and the information system policies and procedures required by national health information initiatives. Emphasis is on the origin, use content and format of health records; storage and retrieval systems, numbering and filing systems, record retention procedures and the basic functions of the health information division such as abstracting, incomplete chart control and release of information, accreditation and licensure standards applicable to health records.

### **HIT 1060 - Health Information Management Systems**

**3 credit hour(s)**

**Prerequisite:** IT 1010 + HIT 1030.

Provides an introduction to the use of information technology in the health care delivery system and different computer applications found in health information divisions. Emphasis is placed on the use of tools and techniques for the development of higher-level content in database processing, information and communication technologies, systems analysis and data quality/integrity.

**Note(s):**

- 30 lecture hours
- 45 lab hours

### **HIT 1070 - Legal/Ethical Aspects of Health Information**

**3 credit hour(s)**

**Pre- or corequisite:** HIT 1030.

Focuses on legal and regulatory requirements related to health information infrastructure, policies, rules and regulations for access and disclosure of medical information and patient confidentiality (HIPAA), release of information to authorized users, principles and organization of the judicial system and ethical standards of practice. Privacy issues and problems will be explored.

### **HIT 1090 - Health Information Practicum I**

**1 credit hour(s)**

**Pre- or corequisite:** HIT 1060 + HIT 1070 + BA 1131.

Provides a simulated or clinical learning experience in a health information department. The experience focuses on the practice of skills related to the application of legal principles; the collection, storage, retention and analysis of health care data to develop insight, understanding and skill in medical record procedures. This is an unpaid work experience of a minimum of 45 hours.

**Note(s):**

- 45 lab hours

**HIT 1096-1996 - Special Topics****1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**HIT 1240 - Principles of Disease****3 credit hour(s)**

**Prerequisite:** (BIO 1310 + BIO 1392) or (BIO 2210 + BIO 2310).

**Pre- or corequisite:** HIT 1020.

Focuses on disease processes affecting the human body via an integrated approach to specific disease entities. The course includes a review of normal functions of the appropriate body systems. Diseases are studied in relationship to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.

**HIT 1250 - Pharmacology and Laboratory Procedures****2 credit hour(s)**

**Prerequisite:** (BIO 1310 + BIO 1392) or (BIO 2210 + BIO 2310).

**Pre- or corequisite:** HIT 1020.

Presents an introduction to the principles of pharmacology and diagnostic testing procedures. Content includes drug terminology, abbreviations, drug effects, dosage, classifications and response to medications. Terminology associated with laboratory and diagnostic tests and their use in diagnosing and implications of resultant values are examined.

**HIT 2010 - Classification of Diseases I (ICD-CM)****3 credit hour(s)**

**Prerequisite:** HIT 1015 + HIT 1020 + HIT 1030 + HIT 1240 + HIT 1250.

Focuses on the principles, guidelines and conventions used in coding diagnoses and procedures using the International Classification of Diseases (ICD) Clinical Modifications (CM), Volumes 1, 2 and 3. Using case scenarios and medical records, students interpret medical record information, choose the required coding classification and assign and sequence codes. The concept of fraud and abuse is introduced.

**Note(s):**

- 30 theory hours
- 45 lab hours

**HIT 2020 - Classification of Diseases II****3 credit hour(s)**

**Prerequisite:** HIT 2010.

Focuses on intermediate ICD-CM coding applications, official coding and reporting guidelines, diagnostic/procedural groupings such as DRG and APC and other issues related to classification systems for maintaining specialized health information data. Interpreting medical record information, choosing required coding classification and assigning and sequencing codes correctly continue to be emphasized through medical records and case scenarios. Computerized classification systems will be used.

**Note(s):**

- 30 theory hours
- 45 lab hours

**HIT 2030 - CPT Coding**

**3 credit hour(s)****Prerequisite:** HIT 2010.

Focuses on outpatient coding using CPT and HCPCS nomenclatures. Medical records and case scenarios are used to translate descriptive procedures into a numeric code(s) using the CPT coding manual, application of HCPCS terminology and current regulations and established guidelines. Medical record documentation requirements, guidelines for different payer classes, correlation between coding and billing and fraud and abuse issues are discussed.

**Note(s):**

- 30 theory hours
- 45 lab hours

**HIT 2040 - Health Information Data Analysis****3 credit hour(s)****Prerequisite:** HIT 1030 + HIT 1060 + **AAS Mathematics Requirement.**

Focuses on health care statistics and research and the practical application of health information concepts as they apply to health record systems and the health care industry. Institutional Review Board policies and processes, collection and retrieval and computation of hospital statistical data are covered as well as vital statistics and reportable diseases and conditions.

**HIT 2050 - Health Information Supervision****3 credit hour(s)****Prerequisite:** HIT 1030 + HIT 1060 + HIT 1090.

Focuses on basic management functions using examples and situations specific to health information. Communication, motivation, budgeting, job analysis, recruitment, discipline, teamwork, committee representation and federal/state laws regarding personnel management are discussed and emphasized. Quality assessment and improvement standards and requirements of licensing, accrediting, fiscal and other regulatory agencies are presented.

**HIT 2060 - Reimbursement Methodologies****2 credit hour(s)****Prerequisite:** IT 1010 + HIT 2010.**Pre- or corequisite:** HIT 2020.

Focuses on health care reimbursement and purpose of insurance and its benefits from a variety of government and third party payer sponsored health programs. Types of reimbursement methods, concept of managed care, various payment systems, fee schedules, charged description master and fraud and abuse are defined and analyzed. Students analyze, apply and/or calculate various prospective payment systems.

**HIT 2070 - Coding Applications****2 credit hour(s)****Prerequisite:** HIT 2020 + HIT 2030 + HIT 2060 or department approval.

Focuses on developing coding skills and the application of those skills to different types of medical records in a simulated work environment. Students code inpatient, emergency division, outpatient surgery and outpatient medical records. The process of interpreting medical record information, choosing the required coding classification and assigning and sequencing codes correctly is addressed.

**Note(s):**

- 15 theory hours
- 45 lab hours

**HIT 2096-2996 - Special Topics****1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**HIT 2290 - Health Information Practicum II****2 credit hour(s)****Pre- or corequisite:** HIT 2030 + HIT 2050 + HIT 2060.



Provides a simulated or clinical learning experience in a health care facility. Emphasis is on coding, qualitative analysis, quality assurance, utilization management and supervisory activities to further develop medical records in the areas of health information management. This is an unpaid work experience requiring a minimum of 90 hours. Students work with the instructor on specific topics related to the program.

**Note(s):**

- 90 lab hours

## Health

### HLTH 1001 - Clinical Preparation

**1 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

Designed to prepare School of Health, Wellness & Public Safety students for their clinical experience in the health discipline they have chosen to study. The course will provide training in CPR, Blood Borne Pathogen, HIPAA, Fire Safety and First Aid. Be advised that CPR certification must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

### HLTH 1010 - Medical Ethics and Law

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course covers legal relationships of healthcare providers and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and medical-ethical issues. Emphasis is placed on making sound decisions when faced with ethical or legal dilemmas, legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services.

### HLTH 1020 - Introduction to Healthcare Careers

**3 credit hour(s)**

This course is designed to familiarize students with the various careers in the medical field. Students will learn skills necessary for healthcare career pathways including: working with others, communication skills, legal and ethical responsibilities, cultural considerations in the healthcare industry, problem solving, decision making, accepting personal responsibility and self-management. Instructional delivery will engage students in hands-on, real-world activities.

### HLTH 1030 - Introduction to Community Health Care

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Overview of current health care delivery systems and organization structure, third-party payers, facility ownership, patient rights, and quality care. Procedures for determining care payment eligibility. Covers public financing available to clients as well as non-governmental third party insurance. Provides information relevant to healthcare organizations to include workplace behavior, communication and teamwork, legal issues, and decision making in the health care setting.

### HLTH 1040 - Introduction to Medical Imaging

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Provides an overview of imaging modalities and specialties in the fields of Diagnostic Medical Sonography and Radiologic Technology. Presents general information about medical imaging professions, professional organizations, professional development, accreditation, credentialing, work environments, ethical and legal issues of medical imaging, confidentiality, diversity and anti-discrimination issues, radiation protection and monitoring, computers in the workplace, and relationship to other health care professionals. Medical and imaging terminology, pertinent clinical and diagnostic protocols related to specific imaging exams will be discussed. Students will learn basic principles of patient care. Students will receive an informative look at the medical imaging clinical setting and hospital organization. Coursework may include hands-on demonstrations and interactions with current medical imaging personnel. Students will also receive instruction in the non-technical aspects of working and gaining employment in healthcare.

### HLTH 1050 - Community Health Worker

**1 credit hour(s)**

This course provides an interdisciplinary introduction to Community Health Work. It provides students with the opportunity to learn the theory and skills to function as a community health worker.

# Heating, Ventilating, Air Conditioning and Refrigeration

## HVAC 1105 - Refrigerant Fundamentals

**4 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Introduces fundamentals of refrigeration, including components, refrigerants, accessories and hands-on competencies.

**Note(s):**

- 45 theory hours
- 45 lab hours

## HVAC 1110 - Basic Electricity

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1105 or department approval.

Presents principles of electricity, measurements, safety, wiring procedures, schematics, components of basic circuits and principles and practices in electricity.

**Note(s):**

- 30 theory hours
- 45 lab hours

## HVAC 1115 - Refrigerant Management

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1110 or department approval.

Stresses accepted practices and procedures of refrigerant handling, containment, safety, leak detection, evacuation, recovery and charging systems. Students must take and pass the EPA Universal CFC Certification exam.

**Note(s):**

- 30 theory hours
- 45 lab hours

## HVAC 1120 - Motors & Controls

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1115 or department approval.

Covers primary and control circuits in various applications, troubleshooting and components. Emphasizes attention to motors and starting devices.

**Note(s):**

- 30 theory hours
- 45 lab hours

## HVAC 1130 - Code and Safety I

**1 credit hour(s)**

Investigates code requirements and safety practices related to refrigeration. Code and safety searches are an integral part of the course.

## HVAC 1235 - Air Conditioning and Controls

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1120.

Covers installation, service and maintenance of air conditioning and heat pump systems.

**Note(s):**

- 15 theory hours
- 90 lab hours

## **HVAC 1240 - System Design, Installation & Retrofit of Heating/Cooling Systems**

**4 credit hour(s)**

**Pre- or corequisite:** HVAC 1235.

Examines air properties, air movement, heat load calculations and water as a secondary refrigerant. Covers the installation of new and retrofitting of existing heating and/or cooling units to duct systems. Test and balancing procedures are introduced.

**Note(s):**

- 45 theory hours
- 75 lab hours

## **HVAC 1245 - Heating and Heating Control Systems**

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1240.

Emphasizes gas, oil and electric heating systems used for residential and/or light commercial heating systems including furnace and package systems and alternative heating sources. Emphasizes electrical and electronic trouble shooting, service, maintenance, repair and replacement of residential and light commercial heating systems.

**Note(s):**

- 15 theory hours
- 90 lab hours

## **HVAC 1321 - Advanced Hydronics and Controls I**

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1245.

Covers the types of hydronic systems, pumps and valves used in the industry; the sizing, selection and internal construction, disassembling, assembling and measurement of mechanical hydronic systems. Stresses pneumatic, electronic and electric control systems with computer interfacing.

**Note(s):**

- 30 theory hours
- 75 lab hours

## **HVAC 1323 - Hot Water & Steam Generation Systems & Controls II**

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1321.

Covers types, design, construction of typical systems, sizing and controls of units. Covers advanced building controls using interfaced operating monitor equipment.

**Note(s):**

- 30 theory hours
- 75 lab hours

## **HVAC 1325 - Chilled Water Systems**

**2 credit hour(s)**

**Pre- or corequisite:** HVAC 1323 or department approval.

Emphasizes commercial and industrial chilled water systems.

**Note(s):**

- 15 theory hours
- 45 lab hours

## **HVAC 1330 - Controls III**

**2 credit hour(s)**

**Pre- or corequisite:** HVAC 1325 or department approval.

Covers the operations and configurations of Building Automated Controls (BACs) for Heating, Ventilating, Air Conditioning and

Refrigeration (HVAC/R) Energy Management. During the course students will apply theory, knowledge and techniques to actual projects using computer based BACs.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **HVAC 1335 - Code and Safety Requirements II**

**1 credit hour(s)**

**Prerequisite:** HVAC 1130 or department approval.

Investigates code requirements and safety practices related to refrigeration. Code and safety searches are an integral part of this course.

**Note(s):**

- 15 theory hours

### **HVAC 1405 - Refrigeration Application**

**2 credit hour(s)**

**Pre- or corequisite:** HVAC 1330 or department approval.

Covers system design, accessories, performance characteristics and problem diagnosis.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **HVAC 1410 - Commercial Refrigeration**

**2 credit hour(s)**

**Pre- or corequisite:** HVAC 1405 or department approval.

Covers installation, service and maintenance of reach-in, walk-in coolers, ice machines, ice cream machines, mechanical and electrical trouble shooting refrigeration systems.

**Note(s):**

- 15 theory hours
- 45 theory hours

### **HVAC 1415 - Industrial Refrigeration**

**2 credit hour(s)**

**Pre- or corequisite:** HVAC 1410 or department approval.

Coverage of the fundamentals, design, installation, and operation of industrial refrigeration systems. Also examined in depth are: Multistate Systems--Commonly used in low-temperature systems. Compressors, Evaporators, and Condensers--Essential system components. Piping, Vessels, Valves and Refrigerant Controls.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **HVAC 1420 - Energy Efficiency & Green Building Standards I**

**3 credit hour(s)**

**Prerequisite:** HVAC 1330.

**Pre- or corequisite:** HVAC 1405 + HVAC 1410 + HVAC 1415 or department approval.

This section covers the training needed for a standardize set of building performance procedures. During the course, students will apply theory, knowledge, and techniques to actual projects using duct blaster testing warm air equipment.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **HVAC 1425 - Energy Efficiency & Green Building Standards II**

**3 credit hour(s)**

**Pre- or corequisite:** HVAC 1420 or department approval.

Weatherization Training with Concentration on Building Performance. This section covers the Training needed for a standardize set of Building Performance Procedures. During the course, students will apply theory, knowledge, and techniques to actual projects using Blower Door testing equipment.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **HVAC 1430 - Energy Efficiency & Green Building Code Compliance**

**1 credit hour(s)**

**Pre- or corequisite:** HVAC 1335 + HVAC 1425 or department approval.

The study of Energy Efficiency & Green Building Code Compliance, Course will cover Federal, State, and local Green Building Codes.

## **HVAC 2095 - Heating, Ventilating, Air Conditioning and Refrigeration COOP**

**3 credit hour(s)**

**Prerequisite:** HVAC 1430 or department approval.

Students will complete 150 hours of supervised training experience at an approved Heating, Ventilation, Air Conditioning and Refrigeration workplace.

**Note(s):**

- Previously HVAC 1505
- 150 lab hours

## **HVAC 2297 - Independent Study**

**Variable credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

# **History**

## **HIST 1101 - Western Civilization I**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- HIST 1101 and HIST 1102 may be taken in either order (do not need to be taken sequentially).

## **HIST 1102 - Western Civilization II**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars, from 1648 to the present.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- HIST 1102 and HIST 1101 may be taken in either order (do not need to be taken sequentially).

## **HIST 1161 - History of the United States I**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- HIST 1161 and HIST 1162 can be taken in any order (do not need to be taken sequentially).

**HIST 1162 - History of the United States II****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Surveys the economic, political, intellectual and social development of the U.S. from 1865 to the present.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- HIST 1162 and HIST 1161 can be taken in any order (do not need to be taken sequentially).

**HIST 1181 - Early Latin American History****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Introduces Latin American history from the pre-Colombian period to the Revolutionary period beginning in 1810.

\* This course requires writing critical essays utilizing multiple source materials.

**HIST 1182 - Modern Latin American History****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Introduces Latin American history from the beginning of the revolutionary period in 1810 to the present.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- Previously HIST 2282

**HIST 2096-2996 - Special Topics****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101\*

Presents various topics.

\* This course requires writing critical essays utilizing multiple source materials.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**HIST 2240 - Vietnam: War Politics and Culture****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Emphasizes causes of the war, military and political aspects, conduct and consequences of years of conflict in Vietnam: issues surrounding U.S. involvement in Vietnam and changes in the culture, institutions and political thought of the U.S. involvement in Vietnam and changes in the culture, institutions and political thought of the U.S. during and after the war.

\* This course requires writing critical essays utilizing multiple source materials.

## **HIST 2260 - History of New Mexico**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Surveys New Mexico's history from 1500 to the present, emphasizing the contributions and the interactions among Native Americans, Hispanics, Anglos and others.

\* This course requires writing critical essays utilizing multiple source materials.

## **HIST 2270 - The American West**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Explores the people, cultures, processes, ideas and environmental factors that shaped the history of the American/US West. Examines topics and exploration, migration and immigration, land use and misuse, western violence and experiences of various ethnics groups of the region.

\* This course requires writing critical essays utilizing multiple source materials.

## **Home Health Aide**

### **HHA 1090 - Home Health Attendant Foundation Skills: Personal Care Assistant**

**1 credit hour(s)**

This course provides foundational Home Health Aide skills and knowledge. Upon completion of the course students would meet the requirements for Personal Care Assistant.

**Note(s):**

- 45 practicum hours

### **HHA 1190 - Home Health Aide Advanced Skills**

**1 credit hour(s)**

**Pre- or corequisite:** HHA 1090.

This course provides the advanced set of skills and knowledge needed to students who have completed Personal Care Assistant training in order to meet the requirements to become a Home Health Aide.

**Note(s):**

- 45 Practicum Hours

## **Hospitality and Tourism**

### **HT 1096-1996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **HT 1101 - Introduction to Tourism**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** IT 1010.

Provides a broad overview of travel and tourism development, operations, and career opportunities.

### **HT 1106 - Hotel Operations**

**3 credit hour(s)**

**Prerequisite:** IT 1010.

**Pre- or corequisite:** CULN 1100 or HT 1101.

Presents management concepts and the interdependence of hotel operations ranging from the front office, security, and housekeeping management to facilities, revenue management and guest services.

### **HT 1111 - Guest Service Management**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Introduces concepts of guest service management, including identifying and exceeding needs of both employees and guests, service recovery, and conflict resolution.

**Note(s):**

- Beginning Fall 2016, HT 1164 will be replaced with BEV 1160 and HT 1111 in program requirements. HT 1164 will no longer be offered after Summer 2016.

### **HT 1164 - Food and Beverage Service**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1100 or HT 1101.

This course focuses on identification, production, and service of beverages common to the foodservice industry and on the management of food and beverage service outlets, including basic service principles with emphasis on identifying and exceeding the needs and expectations of employees and guests.

**Note(s):**

- Beginning Fall 2016, HT 1164 will be replaced with BEV 1160 and HT 1111 in program requirements. HT 1164 will no longer be offered after Summer 2016.

### **HT 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for a structured educational (paid) work experience related to a student's academic goals. Cooperative Education is a partnership between the student and both the educational institution and the employer, with specific responsibilities for each party. Requires a minimum of 135 hours and must involve a new learning experience.

**Note(s):**

- 135 lab hours

### **HT 2096-2996 - Special Topics**

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **HT 2097 - Independent Study**

**1-8 credit hour(s)**

**Prerequisite:** Department approval.

Student works with the instructor on specific topics directly related to the course or program of study. The meeting time is arranged between the student and the instructor.

### **HT 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for a structured (unpaid) work experience related to a student's academic goals. The internship is a partnership between the student and both the educational institution and the employer, with specific responsibilities for each party. Requires a minimum of 135 hours and must involve a new learning experience.

**Note(s):**

- 135 lab hours



## **HT 2141 - Marketing Services**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1100 or HT 1101.

Employs concepts to develop, implement and evaluate a marketing plan to identify and reach prospective customers using marketing tactics specific to hospitality services.

## **HT 2195 - Cooperative Education**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 45 hours in a new job experience in a hospitality environment. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**Note(s):**

- 45 hours

## **HT 2198 - Internship**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 45 hours in a new job experience in a hospitality environment. Students are not paid for their work but are supervised jointly by CNM and the employer.

**Note(s):**

- 45 hours

## **HT 2201 - Hospitality Operations Management**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1010 or CULN 1100 or HT 1101 or department approval.

Provides an overview of the major segments of the hospitality industry, with a focus on basic management principles of each operational segment.

## **HT 2215 - Purchasing and Cost Controls**

**3 credit hour(s)**

**Prerequisite:** HT 1101 or CULN 1010 or CULN 1100 department approval.

**Pre- or corequisite:** BEV 2160 or CULN 1112.

Focuses on the development and implementation of an effective purchasing program involving issues such as supplier relations, supplier selection, negotiation and evaluation. The process of resource control and effective budgeting to reduce costs and maximize revenue is introduced.

## **HT 2225 - Gaming Operations and Management**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1100 or HT 1101 or department approval.

Emphasizes the organizational structure of casinos and their personnel. Topics include gaming behavior, marketing, player rating, slot volatility, casino layout and table games management. The strategies and procedures that need to be used to protect the integrity of table games and the role of surveillance in the prevention and detection of scam artists and cheaters are examined.

## **HT 2232 - Event Planning**

**3 credit hour(s)**

**Pre- or corequisite:** CULN 1100 or HT 1101 or department approval.

An overview of event planning ranging from special events, festivals, meetings and weddings. Focus will be on design, planning and organization of events including marketing and volunteer management.

## **HT 2235 - Leadership and Management in the Hospitality Industry**

**3 credit hour(s)**

**Prerequisite:** CULN 1100 or HT 1101 or department approval.

Explores quality concepts and tools within the hospitality industry. High-performance team building, strategic career plans and managing organizational change are covered.

## **HT 2240 - Hospitality Law**

**3 credit hour(s)**

**Prerequisite:** BEV 1160 or HT 1164 or HT 1101.

Focuses on the application of the law to the hospitality and tourism and allied industries, the rights and obligations of guests, and effectively managing legal issues faced by hospitality managers.

## **HT 2295 - Cooperative Education**

**2 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 90 hours in a new job experience in a hospitality environment. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

**Note(s):**

- 90 hours

## **HT 2298 - Internship**

**2 credit hour(s)**

**Prerequisite:** Department approval.

Provides students the opportunity to work a minimum of 90 hours in a new job experience in a hospitality environment. Students are not paid for their work but are supervised jointly by CNM and the employer.

**Note(s):**

- 90 hours

# **Humanities**

## **HUM 1111 - Cultures and Civilizations of the Ancient World**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces history, art, literature, religion and ideas of early world civilizations: Egypt, Mesopotamia, India, China Greece, Rome, Europe, Africa and pre-Columbian America.

## **HUM 1115 - The Medieval World**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

An introduction to the cultural developments of world civilizations between the years 500 and 1500 CE, examining intellectual, scientific and artistic expressions and developments through an interdisciplinary method of study. Special attention is given to cultures of Asia and Africa, religious and ethnic minorities of Europe and the lives and roles of women. Connections to the historical eras prior and subsequent will be noted. The course will employ a thematic approach through topics such as art, music, religion, philosophy, science and technology in each culture as well as lasting influence, impact, contributions and social trends.

## **HUM 1121 - Cultures and Civilization Renaissance to Present**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Continues course of study begun in HUM 1115: history, art, literature, music and ideas of world civilizations from the Renaissance to present.

## **HUM 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Human Services

### HSV 1101 - Clinical Evaluation of Substance Abuse and Treatment

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Examines the principles and practice of clinical evaluation in addiction treatment including the processes of intake, screening, assessment, treatment planning, referral, and documentation. Students will be required to complete field-based work in an approved setting.

### HSV 1102 - Case Management for Substance Abuse Counseling

**2 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Explores the principles and practice of case management in addiction treatment including the processes collaboration with referral sources; review and interpretation of client evaluation information; administrative procedures for eligibility and admission for treatment; and coordination with service providers. Students will be required to complete field-based work in an approved setting.

### HSV 1103 - Motivational Interviewing

**1 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Explores the techniques in motivational interviewing counseling skills applied to the area of substance abuse counseling. Motivational interviewing is an evidence-based treatment that addresses ambivalence to change through a person-focused approach.

### HSV 2201 - Evidence-based Treatment for Substance Abuse Counseling

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

This course reviews the principles and practice of evidence-based treatment in addiction treatment including the processes of using assessment information to guide treatment planning; examining treatment options across the continuum of care; and formulating and monitoring culturally relevant treatment goals.

### HSV 2202 - Ethics & Professionalism in Substance Abuse Counseling: Theory and Lab

**3 credit hour(s)**

**Prerequisite:** HSV 2201.

This course introduces students to the ethical standards in the New Mexico Professional Code of Ethics and issues associated with the dignity and worth of individual human beings and the protection of fundamental human rights. Professional ethics, clients' rights, confidentiality, and other relevant material related to the field of addictions counseling will be explored. Topics include discussing situations for setting boundaries, and an overview of current federal legislation pertaining to client confidentiality and release of information. Students will participate in a 45-hour field-based practicum in an approved setting.

### HSV 2203 - Introduction to Addiction Counseling

**2 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Introduces substance abuse counseling. Explores the functions and competencies of substance abuse counselors, how counseling is affected by attitudes and beliefs regarding alcohol and drug use/abuse.

**Note(s):**

- Previously CDV 2203

### HSV 2204 - Professional Issues in Substance Abuse Treatment

**2 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Introduces legal, ethical, and professional issues in substance abuse treatment.

**Note(s):**

- Previously CDV 2204

**HSV 2205 - Adolescent Substance Abuse: Prevention and Treatment**

**2 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Explores the differences between adolescent and adult substance use/abuse and evidence-based approaches for prevention and treatment. Considers the impact of relationships with parenting style and parental substance abuse.

**Note(s):**

- Previously CDV 2205

**HSV 2210 - Introduction to Social Work**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Introduces students to the social work profession's values, ethics, fields of practice and settings. Highlights the profession's commitment to diverse and at-risk populations and social/economic justice. Explores the profession of social work in preparation for HSV 2890: Social Work Practicum.

**Note(s):**

- HSV 2210 was formerly CDV 2210

**HSV 2890 - Social Work Practicum**

**2 credit hour(s)**

**Prerequisite:** HSV 2210.

Provides practical experiences in approval social work and/or closely related settings.

**Note(s):**

- 15 theory hours
- 45 lab hours
- HSV 2890 was formerly CDV 2890

## Information Technology

**IT 0850 - Basic Computer/Keyboarding Skills**

**3 credit hour(s)**

Introduces basic skills in computer applications, computer concepts, Internet navigation and keyboarding. Recommended for entry level students with limited to low computer skills. This course is offered in two different formats. Collaborative is a traditional/lecture style class that incorporates lecture, individual and group work and individual and group projects. In the Self-paced format, students work at their own pace to move through the material. Self-paced courses are open entry/open exit.

**Note(s):**

- Course taught in a computer lab.

**IT 1004 - Computer and Keyboarding Basics**

**3 credit hour(s)**

This course covers computer basics, keyboarding, Windows navigation, file management, and introduction to word processing and presentation software.

**Note(s):**

- Course taught in a computer lab.

**IT 1010 - Computer Concepts and Software Applications**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** 25 wpm keyboarding skill.

Introduces fundamental computer literacy, which includes hardware and software topics, with lecture and hands-on instruction. Computer applications include operating systems, word processing, spreadsheets, presentations, databases and the basics of using networked computers (e.g., email and the Internet).

**Note(s):**

- Course taught in a computer lab.

## Integrated Reading & Writing

### IRW 0970 - Integrated Reading and Writing I

**3 credit hour(s)**

**Prerequisite:** Appropriate placement score.

Introduces various work-related and academic texts and assists students in comprehending these texts and in constructing effective work-related and academic writings of their own. Students develop strategies to improve their reading and writing skills. Students learn the fundamentals of sentence structure as well as grammar and mechanics.

### IRW 0980 - Integrated Reading and Writing II

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or ESOL 0971 or appropriate placement score.

Focuses on critical reading, reasoning, and writing skills to prepare students for college-level course work. Students develop the reading comprehension and critical thinking skills needed for academic success. Students apply the fundamentals of sentence structure and paragraph development to their own writing and develop their skills in grammar and mechanics.

## Iron Worker Apprenticeship

### IWAP 1116 - Iron Workers Apprenticeship

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### IWAP 1126 - Iron Workers Apprenticeship

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### IWAP 1216 - Iron Workers Apprenticeship

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### IWAP 1226 - Iron Workers Apprenticeship

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### IWAP 1316 - Iron Workers Apprenticeship

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### **IWAP 1326 - Iron Workers Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### **IWAP 1416 - Iron Workers Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

### **IWAP 1426 - Iron Workers Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the iron worker industry or department approval.

Provides 75-105 hours of related classroom instruction covering orientation, safety, shop and trade math, tools, equipment, supplies, blueprint reading, layout and code interpretation.

## **Journalism**

### **JOUR 1171 - Writing for the Media I**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score or department approval.

Introduces methods and skills of journalism, emphasizing journalistic conventions, news gathering and news writing for print and broadcast media.

### **JOUR 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** JOUR 1171 + ENG 1101 or department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **JOUR 2271 - Writing for the Media II**

**3 credit hour(s)**

**Prerequisite:** JOUR 1171 or department approval.

Emphasizes advanced skills and professional journalistic conventions, gathering and writing news for print and broadcast media, including a variety of types of stories and legal and ethical topics.

### **JOUR 2290 - Journalistic Practice**

**3 credit hour(s)**

**Prerequisite:** JOUR 1171 + department approval.

Provides opportunities for internship in working with journalism professionals and for conducting independent research and developing journalistic skills. Open to anyone but targeted for students working in the mass media.

## **Latin American Studies**

### **LTAM 1110 - Introduction to Latin American Studies**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduction to Latin American Studies presents students with an interdisciplinary examination of the region. Students will examine Latin America through the lenses of economics, political science, history, literature, cultural studies, and/or foreign languages. Students will acquire an understanding of Latin American societies through various perspectives.

### **LTAM 1111 - Latin American Film**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Explores themes relevant to Latin American societies through the viewing and analysis of critically acclaimed films and documentaries from Latin America. Such themes include cultural and/or religious conflict, rural vs. urban and migration issues, changing gender and social roles, marginalized peoples, and globalization.

### **LTAM 2096-2996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **Manufacturing Technology**

### **MT 2005 - Statistical Controls**

**3 credit hour(s)**

**Prerequisite:** MATH 0980 or appropriate placement score.

Features the use of hardware and software as they apply to quality assurance. Study design of experiments, sampling techniques, SPC, control chart application and development and process reliability.

### **MT 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. Position is not paid.

### **MT 2096-2996 - Special Topics**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **MT 2097 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Allows the student to investigate and solve a problem. The student designs the solution using a combination of manufacturing techniques.

MT 2098 - Internship

**5 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for the student to work for one term on a cooperative basis in an appropriate training program. Position is not paid.

# Mathematics

## MATH 0196-0996 - Special Topics

**1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## MATH 0850 - Math Test Preparation

**1 credit hour(s)**

The Math Test Preparation course is designed for students who just need a “refresher” on the topics of systems of equations, polynomials, factoring, and solving quadratic equations. Using computer software, students will receive an individualized study plan based on what math skills they need to improve on so that they can score higher on the Math Accuplacer test and possibly place into MATH 1310.

**Note(s):**

- This Test Preparation course is not a prerequisite or replacement for any MATH course

## MATH 0970 - Algebraic Problem Solving I

**3 credit hour(s)**

**Prerequisite:** Appropriate placement score.

Covers topics in algebra including solving and graphing linear equations and inequalities and solving systems of linear equations. Incorporates algebraic and geometric applications, formulas, and scientific notation.

## MATH 0980 - Algebraic Problem Solving II

**3 credit hour(s)**

**Prerequisite:** MATH 0970 or appropriate placement score.

Covers topics in algebra including exponential expressions, polynomials, factoring quadratic equations, and an introduction to functions.

## MATH 1096-1996 - Special Topics

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## MATH 1110 - Math for Teachers I

**3 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Investigates the representation of rational numbers and rational number arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Connections to basic geometric concepts are included. Explanation and problem solving is emphasized throughout.

**Note(s):**30 theory hours

45 lab hours

## MATH 1115 - Math for Teachers II

**3 credit hour(s)**

**Prerequisite:** MATH 1110.

Develops basic geometric concepts including rigid transformations and congruence; dilations and similarity; length, area and volume; systems of measurement and unit conversions; and connections to coordinate geometry. Problem solving is emphasized throughout.

## MATH 1210 - Methods of Problem Solving



**4 credit hour(s)**

**Prerequisite:** MATH 0970 or appropriate placement score.

Presents strategies for solving mathematical problems relying heavily on inductive reasoning, sequences, set theory, combinatorics, probability, descriptive statistics and algebraic modeling (linear and non-linear).

**MATH 1310 - Intermediate Algebra****4 credit hour(s)**

**Prerequisite:** MATH 0980 or appropriate placement score.

This course investigates algebraic topics such as expressions, equations, functions and their graphs. Applications and modeling, as they relate to polynomial, rational, and radical forms are explored. Basic exponential and logarithmic forms are introduced.

**MATH 1315 - College Algebra****3 credit hour(s)**

**Prerequisite:** MATH 1310 or appropriate placement score.

Focuses on functions and their graphs; investigation of linear, quadratic, polynomial, rational, exponential and logarithmic functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

**MATH 1316 - College Algebra Workshop****1 credit hour(s)**

**Corequisite:** MATH 1315.

Provides an opportunity to explore advanced topics and applications of college algebra through collaborative problem solving.

**MATH 1320 - A Survey of Mathematics****3 credit hour(s)**

**Prerequisite:** MATH 0980 or MATH 1210 or appropriate placement score.

Focuses on the creative nature of mathematics through problems, readings, and discussions of topics such as set theory, logic, number theory, basic geometry and probability.

**MATH 1330 - Introduction to Probability and Statistics****3 credit hour(s)**

**Prerequisite:** MATH 0980 or MATH 1210 or appropriate placement score.

Introduces basic concepts in probability and statistics including simple data analysis and descriptive statistics, probability and probability models, sampling and statistical inference with applications from varied fields. Graphing calculator may be required for this course. Please see class syllabus for requirements.

**MATH 1331 - Introduction to Data Analysis Using Technology****1 credit hour(s)**

**Corequisite:** MATH 1330.

This course instructs students on the use of computer spreadsheet software such as Excel and/or Minitab to perform various types of statistical analysis in order to make informed decisions from sampled data sets.

**MATH 1340 - Geometry for Design****3 credit hour(s)**

**Prerequisite:** MATH 1210 or MATH 1310 or department approval.

Presents the mathematical basis of geometric practices used in structural and decorative design. Surveys the major historical approaches to geometric study: Euclidean, descriptive, transformational, combinatorial, and ornamental. Compares aesthetic and technological issues in cultural context.

**Note(s):**

- 45 theory hours
- 15 lab hours

**MATH 1410 - Trigonometry**

**3 credit hour(s)**

**Prerequisite:** MATH 1315 or MATH 1415 or appropriate placement score.

Explores trigonometric functions and their inverses, including radian and degree measure, basic trigonometric identities, polar coordinates, solving triangles and other applications. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

**MATH 1415 - Advanced Algebra****4 credit hour(s)**

**Prerequisite:** MATH 1315 or MATH 1530 or appropriate placement score.

Explores functions (particularly exponential and logarithmic), conics, sequences and series, and systems of equations using graphing calculators. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

**MATH 1460 - Elements of Calculus I****3 credit hour(s)**

**Prerequisite:** MATH 1315 or MATH 1415 or MATH 1530 or appropriate placement score.

Presents the intuitive concepts, basic properties and applications of derivatives and definite integrals. Focuses on the applications of these topics to the managerial, social, and life sciences. Designed for business, social science and life science majors. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

**MATH 1465 - Elements of Calculus II****3 credit hour(s)**

**Prerequisite:** MATH 1460.

Continues the course of study begun in MATH 1460 - Elements of Calculus I. Presents intensive study of substitution, integration by parts, and numerical integration. Introduces multivariate calculus and some differential equations. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

**MATH 1530 - Precalculus with Trigonometry****5 credit hour(s)**

**Prerequisite:** MATH 1315 or appropriate placement score.

MATH 1530 is a combination of MATH 1410 and MATH 1415.

This course explores functions (exponential, logarithmic, polynomial, rational, and trigonometric), and conics, radian and degree measure, basic trigonometric identities, solving triangles and other applications.

**MATH 1710 - Calculus I****4 credit hour(s)**

**Prerequisite:** (MATH 1410 + MATH 1415) or MATH 1530 or appropriate placement score.

Introduces the intuitive, numerical and theoretical concepts of limits, continuity, differentiation and integration. Includes the study of extrema, curve sketching and applications involving algebraic, exponential, logarithmic and trigonometric functions. Designed for mathematics, science and engineering majors. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

**MATH 1715 - Calculus II****4 credit hour(s)**

**Prerequisite:** MATH 1710.

Continues the course of study begun in MATH 1710 - Calculus I. Covers integration techniques, numerical integration, improper integrals, some differential equations, series and applications. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

**MATH 2015 - Math K-12 Curriculum Workshop****1 credit hour(s)**

**Prerequisite:** Department approval.

This course can only be taken concurrently with MATH 1315 or above. Students will analyze current K-12 math curriculum materials with respect to the math class they are taking concurrently.

**Note(s):** Repeatable for credit

## **MATH 2088 - Math Specialty**

### **1-12 credit hour(s)**

This course is used to transfer approved courses from other colleges and universities to fulfill requirements for the AS Mathematics degree. Please contact the School of Math, Science and Engineering for a list of approved courses.

## **MATH 2096-2996 - Special Topics**

### **3 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **MATH 2110 - Math for Teachers III**

### **3 credit hour(s)**

**Prerequisite:** MATH 1110.

Investigates algebra from the viewpoint of the elementary curriculum with an emphasis on proportional and linear relationships. Connections to statistics, probability, data analysis, and geometry from the elementary curriculum are included. Problem solving is emphasized throughout.

#### **Note(s):**

- 30 theory hours
- 45 lab hours

## **MATH 2710 - Calculus III**

### **4 credit hour(s)**

**Prerequisite:** MATH 1715.

Continues the course of study begun in MATH 1715 - Calculus II. Topics include multivariate and vector calculus, level curves and surfaces, partial derivatives, gradients, tangent planes, directional derivatives, multiple integrals, cylindrical and spherical coordinates, and applications. A graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

## **MATH 2810 - Applied Linear Algebra**

### **3 credit hour(s)**

**Prerequisite:** MATH 1715.

Presents systems of linear equations and matrices. Introduction to vector spaces and linear transformations. Rank, determinants, eigenvalues and eigenvectors, applications and efficient computational and numerical methods are studied.

#### **Note(s):**

- Although this Math course does not have a direct UNM Equivalency, it has been approved to satisfy UNM MATH 314 for all UNM majors EXCEPT MATH and PHYSICS MAJORS!

## **MATH 2910 - Applied Ordinary Differential Equations**

### **3 credit hour(s)**

**Prerequisite:** MATH 1715.

**Recommended:** MATH 2710.\*

Includes the elementary theory of ordinary differential equations, numerical methods, phase plane analysis, and an introduction to transform methods.

\* It is strongly recommended that students take MATH 2710 prior to taking MATH 2910 as familiarity with the principles of advanced calculus will be beneficial to students in this course.

#### **Note(s):**

- Although this Math course does not have a direct UNM Equivalency, it has been approved to satisfy UNM MATH 316 for all UNM majors EXCEPT MATH and PHYSICS MAJORS!

## **Machine Tool Technology**

## **MATT 1001 - Metals Math I**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Presents whole numbers, fractions and decimals, shop geometry and algebra, formulas and equations and the Pythagorean Theorem. Emphasis is on developing problem solving skills.

## **MATT 1005 - Metals Blueprint Reading I**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Covers the interpretation of basic manufacturing and fabrication drawings, terminology, or orthographic projection, sectional views, dimensions, tolerances, symbols and drawing standards.

## **MATT 1030 - Metals Math II**

**2 credit hour(s)**

**Prerequisite:** MATT 1001 or department approval.

Provides basic shop algebra, formulas, geometry and triangulation. Covers calculation of areas, volumes, material requirements, angles, applied trigonometry and advanced shop math applications.

## **MATT 1035 - Metals Blueprint Reading II**

**2 credit hour(s)**

**Prerequisite:** MATT 1005 or department approval.

Continues a review of basic shop blueprint interpretation, provides interpretation of complex manufacturing and fabrication drawings including sectional views, tolerances and allowances, surface texture and assembly drawings.

## **MATT 1060 - Machine Tool Technology Skills**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Covers basic knowledge and upgrade skills in the machine tool industry including safety, hand tools, lathe, mill, bench work, measurement, blueprint reading and shop math. (30 theory hours/60 lab hours)

## **MATT 1065 - Metallurgy**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Introduces the basic science of cutting metals, including material structure, properties, alloying and testing of ferrous and non-ferrous metals with emphasis on machining performance and tooling applications.

## **MATT 1110 - Basic Lathe Principles**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Introduces basic engine lathe principles and operations. Includes safety, setup, speeds and feeds, workholding devices and tooling, facing, turning, chamfering, shouldering and tailstock operations.

### **Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1092

## **MATT 1120 - Basic Milling Machine Principles**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Introduces basic milling machine principles and operations. Covers safety, basic setup, speeds and feeds, tooling, workholding devices, squaring, step milling, drilling, reaming and tapping.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1192

**MATT 1130 - Basic Supporting Machine Tool Principles**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Introduces drill press, bandsaw, pedestal grinder and handtool principles and operations. Covers safety, care and use of hand tools, layout, toolbit grinding and machine care and maintenance.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1292

**MATT 1140 - Basic Measurement and Inspection**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Provides practical exercises in basic metal shop measurement and inspection techniques, including use of rules, calipers, micrometers, comparison instruments and inspection reports.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1392

**MATT 1210 - Intermediate Lathe Principles**

**2 credit hour(s)**

**Prerequisite:** MATT 1110 or department approval.

Reviews basic engine lathe principles and operations with training in safety, precision turning and facing, production turning, taper turning, carbide tooling applications, power cutoff, boring, single point threading and basic CNC turning set up and operation.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1492

**MATT 1220 - Intermediate Milling Machine Principles**

**2 credit hour(s)**

**Prerequisite:** MATT 1120 or department approval.

Continues a review of basic milling principles and operations, training offers safety, climb and conventional milling methods, hole production, slotting, pocket milling, rotary table work and basic CNC milling set-up and operation.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1592

**MATT 1230 - Intermediate Supporting Machine Tool Principles**

**2 credit hour(s)**

**Prerequisite:** MATT 1130 or department approval.

Presents concentrated training in safety, surface grinding, tool reconditioning, production support and advanced quality assurance methods.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1692

**MATT 1240 - Computer Numerical Control I**

**2 credit hour(s)**

**Prerequisite:** MATT 1001 + MATT 1005 or department approval.

Presents basic computer skills necessary to program, set up and operate CNC milling and turning centers. Covers CNC manuscript and tape preparation, program troubleshooting and editing, tooling and workholding and fundamentals of CNC operation.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 1792

**MATT 2005 - Machine Tool Technology CAD/CAM**

**2 credit hour(s)**

**Prerequisite:** MATT 1240.

Presents computer aided drafting and computer aided machining skills using software typically found in the machine tool industry with specific instruction offered in Mastercam and Solidworks software.

**Note(s):**

- 15 theory hours
- 45 lab hours

**MATT 2010 - Advanced Lathe Principles**

**2 credit hour(s)**

**Prerequisite:** MATT 1210 or department approval.

Reviews carbide tooling applications, boring and threading. Covers safety, setup and use of soft jaws and advanced production and CNC turning techniques.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 2092

**MATT 2020 - Advanced Milling Machine Principles**

**2 credit hour(s)**

**Prerequisite:** MATT 1220 or department approval.

Reviews rotary table work and locational operations. Offers safety, carbide shell mills, complex milling set-ups and advanced production and CNC milling techniques.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 2192

**MATT 2025 - Advanced Machine Tool Technology Skills**

**3 credit hour(s)**

**Prerequisite:** MATT 1060 or department approval.

Provides advanced instruction in safety, lathe, mill, blueprint reading and shop math.

**Note(s):**

- 30 theory hours
- 60 lab hours

**MATT 2030 - Advanced Supporting Machine Tool Principles**

**2 credit hour(s)**

**Prerequisite:** MATT 1230 or department approval.

Covers production support, safety, advanced surface grinding set ups and operations, assembly techniques, production inspection techniques to ANSI standards and CNC set-up and operation for production applications.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 2292

**MATT 2040 - Computer Numerical Control II**

**2 credit hour(s)**

**Prerequisite:** MATT 1240 or department approval.

Reviews programming, manuscript and tape preparation and editing. Presents various programming languages, subroutines and interactive graphic programming.

**Note(s):**

- 15 theory hours
- 60 lab hours
- Previously MATT 2392

**MATT 2096-2996 - Special Topics**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**MATT 2097 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

**MATT 2140 - Advanced Computer Numerical Control**

**2 credit hour(s)**

**Prerequisite:** MATT 2040 or department approval.

Builds on knowledge and skills developed in MATT 1240 and MATT 2040. Presents advanced programming techniques, manuscript editing. Includes advanced exercises in various programming languages, subroutines and interactive graphics. Instruction in 3D surfacing and multi-axis toolpathing using CAD/CAM software.

**Note(s):**

- 90 lab hours

**MATT 2999 - Machine Tool Technology Capstone Course**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Preparation of a professional portfolio that demonstrates student's mastery of technical and core competencies.

## Medical Lab Technician

### MLT 1001 - Preparation for Medical Lab Sciences

#### 3 credit hour(s)

An introduction to the Medical Laboratory industry and the skills necessary to succeed in laboratory education and careers. Includes college success skills, an overview of technical departments and specialties, and non-technical aspects of working and gaining employment in healthcare. Coursework will include hands-on demonstrations and interactions with current laboratory personnel.

### MLT 1012 - Clinical Urinalysis

#### 1 credit hour(s)

**Prerequisite:** BIO 1410 + BIO 1492 + [CHEM 1410 + CHEM 1492 or (CHEM 1710 + CHEM 1792 + CHEM 1810 + CHEM 1892)] + BIO 2110 + BIO 2192 + BIO 2210 + BIO 2310 + CHEM 2210 + ENG 1101 + Human Relations Requirement + IT 1010 + MATH 1330 + MLT 1001 + [MLT 1270 or (PHLB 1010 + PHLB 1092)] + department approval.

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1092 + MLT 1510 + MLT 1592 + MLT 1692 + MLT 2011 + MLT 2092.

Introduces principles and procedures of physical, chemical and microscopic analysis of urine.

### MLT 1014 - Immunology

#### 1 credit hour(s)

**Prerequisite:** MLT 1012 + MLT 1092 + (MLT 1390 or PHLB 1090) + MLT 1510 + MLT 1592 + MLT 1692 + MLT 2011 + MLT 2092.

**Corequisite:** MLT 1192 + MLT 1511 + MLT 1792 + MLT 2010 + MLT 2592.

Teaches the basics of the body's immune response and introduction to diseases involving deficiencies in the immune system.

#### Note(s):

- Typically offered Spring term only.

### MLT 1092 - Clinical Urinalysis Laboratory

#### 1 credit hour(s)

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1012 + MLT 1510 + MLT 1592 + MLT 1692 + MLT 2011 + MLT 2092.

Introduces basic medical laboratory techniques in urinalysis and special tests.

#### Note(s):

- 45 lab hours
- Typically offered Fall term only.

### MLT 1096-1996 - Special Topics

#### 1-6 credit hour(s)

Presents various topics.

#### Note(s):

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### MLT 1192 - Clinical Immunology Laboratory

#### 1 credit hour(s)

**Corequisite:** MLT 1014 + MLT 1511 + MLT 1792 + MLT 2010 + MLT 2592.

Provides experience in serological testing on specimens from hospital patients using current methodologies.

#### Note(s):

- 45 lab hours
- Typically offered Spring term only.

### MLT 1270 - Phlebotomy Skills for MLT



**2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score + HLTH 1001.

Introduces principles and skills related to blood collection to meet the minimum requirement for entering the MLT profession without prior experience as a phlebotomist. This course is not intended as training to gain employment as a phlebotomist.

**Note(s):**

- 15 theory hours
- 45 lab hours

**MLT 1390 - Clinical Experience Phlebotomy Skills****1 credit hour(s)**

**Prerequisite:** MLT 1270 or PHLB 1010 + PHLB 1092 + department approval.

Provides phlebotomy experience in a clinical setting. This course is not intended as training to gain employment as a phlebotomist.

**Note(s):**

- 45 clinical hours
- Typically offered Fall term only.

**MLT 1510 - Clinical Hematology****3 credit hour(s)**

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1012 + MLT 1092 + MLT 1692 + MLT 1592 + MLT 2011 + MLT 2092.

Teaches normal and abnormal blood cell morphology and the principles of routine procedures in a hematology laboratory.

**Note(s):**

- Typically offered Fall term only.

**MLT 1511 - Clinical Immunohematology****2 credit hour(s)**

**Corequisite:** MLT 1014 + MLT 1192 + MLT 1792 + MLT 2010 + MLT 2592.

Examines the theory principles for determining blood group typing, antibody detection and identification, cross matching and component therapy.

**Note(s):**

- Typically offered Spring term only.

**MLT 1592 - Clinical Coagulation Laboratory****1 credit hour(s)**

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1012 + MLT 1092 + MLT 1510 + MLT 1692 + MLT 2011 + MLT 2092.

Presents basic coagulation concepts with practice performing the procedures. Also introduces advanced principles and procedures performed in the coagulation laboratory.

**Note(s):**

- 45 lab hours
- Typically offered Fall term only.

**MLT 1692 - Clinical Hematology Laboratory****2 credit hour(s)**

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1012 + MLT 1092 + MLT 1510 + MLT 1592 + MLT 2011 + MLT 2092.

Presents experiences for performing the basic procedures in a hematology laboratory including the identification and enumeration of blood cells.

**Note(s):**

- 90 lab hours
- Typically offered Fall term only.

### **MLT 1792 - Clinical Immunohematology Laboratory**

**2 credit hour(s)**

**Corequisite:** MLT 1014 + MLT 1192 + MLT 1511 + MLT 2010 + MLT 2592.

Provides experience in clinical blood bank.

**Note(s):**

- 90 lab hours
- Typically offered Spring term only.

### **MLT 2010 - MLT Microbiology**

**3 credit hour(s)**

**Corequisite:** MLT 1014 + MLT 1192 + MLT 1511 + MLT 1792 + MLT 2592.

Presents clinical bacteriology, mycology and parasitology including macroscopic and microscopic identification of organisms, antibiotic susceptibility testing, life cycles and the pathology and etiology of various diseases. Virology is introduced.

**Note(s):**

- Typically offered Spring term only.

### **MLT 2011 - Clinical Chemistry**

**3 credit hour(s)**

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1012 + MLT 1092 + MLT 1510 + MLT 1592 + MLT 1692 + MLT 2092.

Presents the principles and methods used in testing for chemical components in blood and other body fluids including basic instrumentation.

**Note(s):**

- Typically offered Fall term only.

### **MLT 2092 - Clinical Chemistry Laboratory**

**1 credit hour(s)**

**Pre- or corequisite:** MLT 1390 or PHLB 1090.

**Corequisite:** MLT 1012 + MLT 1092 + MLT 1510 + MLT 1592 + MLT 1692 + MLT 2011.

Presents experiences for performing the basic procedures used in a clinical chemistry laboratory including basic chemistry instrumentation.

**Note(s):**

- 45 lab hours
- Typically offered Fall term only.

### **MLT 2592 - Clinical Microbiology Laboratory**

**3 credit hour(s)**

**Corequisite:** MLT 1014 + MLT 1192 + MLT 1511 + MLT 1792 + MLT 2010.

Identifies the microorganisms of clinical significance from specimens obtained from patients. Students utilize current methodologies and identification techniques.

**Note(s):**

- 135 lab hours
- Typically offered Spring term only.

### **MLT 2712 - Advanced MLT Topics and Exam Preparation**

**1 credit hour(s)**

**Corequisite:** MLT 2790.

Includes topics such as emerging laboratory technologies, laboratory regulation, personnel qualifications, day-to-day operations, responsible research and national MLT certification exam preparation.

## **MLT 2790 - MLT Clinical Experience**

**7 credit hour(s)**

**Prerequisite:** MLT 1014 + MLT 1192 + MLT 1511 + MLT 1792 + MLT 2010 + MLT 2592.

**Corequisite:** MLT 2712.

Provides clinical practice in affiliated clinical laboratories with rotations through hematology/ coagulation, microbiology, chemistry and Immunohematology divisions. This course has a Web-based component. This is credit/no credit course.

**Note(s):**

- 420 clinical intensive hours

## **Micro-Electro-Mechanical Systems**

### **MEMS 1002 - Introduction to MEMS Theory**

**2 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score.

**Corequisite:** MEMS 1092.

Focuses on Microelectromechanical systems (MEMS) including micro and nano-enable systems and covers how these tiny devices work, are made, and designed, and where they are used in this emerging high technology field. Devices studied include those used in micro optical displays, sensors and microfluidic pumps used in BioMEMS, pressure sensors and inertial sensors used in transportation and gaming applications. No books required, all is provided online and includes reading, animations, and streaming lecture educational materials.

### **MEMS 1092 - Introduction to MEMS Lab**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0980 or appropriate placement score.

**Pre- or corequisite:** MEMS 1002.

Focuses on Microelectromechanical systems (MEMS) and covers how these tiny devices are fabricated, and designed,. Hands-on activities will include using state-of-the-art microsystems design software and cleanroom safety and protocol lessons. Students will learn and apply principals in an actual cleanroom activity (UNM's MTTC Cleanroom). No books required, all is provided online and includes reading, animations, and streaming lecture educational materials.

**Note(s):**

- 45 lab hours

### **MEMS 1101 - Plasma - RF - Vacuum Systems Theory**

**2 credit hour(s)**

**Prerequisite:** ELEC 1202 + ELEC 1292 or department approval.

Presents RF energy, vacuum technology and vacuum systems applications in manufacturing industries. Includes safety, plasma physics, RF applications, RF generators, transmission lines, RF interference, gas laws and properties, operation and applications of vacuum pumps, gauges and valves and systems leak detection.

### **MEMS 1192 - Plasma - RF - Vacuum Systems Lab**

**2 credit hour(s)**

**Pre- or corequisite:** MEMS 1101 or department approval.

Includes laboratory exercises designed to reinforce the theoretical concepts presented in MEMS 1101.

**Note(s):**

- 90 lab hours

### **MEMS 2001 - MEMS Manufacturing Process**

**5 credit hour(s)**

**Prerequisite:** MEMS 1001 + ELEC 1010 or department approval.

Covers the various construction methods used to manufacture MEMS components and systems. Bulk micro-machining, surface micro-machining processes such as SUMMIT IV, MUMPS will be covered in detail.

### **MEMS 2015 - MEMS Manufacturing Technology Theory**

**3 credit hour(s)**

**Prerequisite:** MEMS 1002 + MEMS 1092 + MEMS 2102 or department approval.

**Corequisite:** MEMS 2092.

Focuses on Microelectromechanical systems (MEMS) fabrication process control, characterization and development principals. Topics include characterization and optimization of fabrication processes including, but not limited to photolithography, etch, thin film deposition, process interaction with materials, design of experiments and process control concepts, and metrology (measurement) theory. No books are required for this course, all materials will be provided online.

### **MEMS 2092 - MEMS Manufacturing Technology Lab**

**2 credit hour(s)**

**Prerequisite:** MEMS 2102 or department approval.

**Pre- or corequisite:** MEMS 2015.

Focuses on Microelectromechanical systems (MEMS) fabrication process control, characterization and development principals. Topics include application of characterization and optimization of fabrication processes principals in a cleanroom environment including the application of design of experiments and process control concepts, and metrology (measurement) theory. No books are required for this course, all materials will be provided online and lab materials will be supplied.

**Note(s):**

- 90 lab hours

### **MEMS 2102 - Manufacturing Process Theory**

**2 credit hour(s)**

**Prerequisite:** MEMS 1002 + MEMS 1092 or department approval.

**Corequisite:** MEMS 2192.

Focuses on Microelectromechanical systems (MEMS) surface and bulk fabrication processes including photolithography, wet and dry anisotropic and isotropic etch, and thin film deposition methods. These processes are also used in semiconductor and nanotechnology applications. No books required, all is provided online and includes reading, animations, and streaming lecture educational materials.

### **MEMS 2192 - Manufacturing Process Lab**

**1 credit hour(s)**

**Prerequisite:** MEMS 1002 + MEMS 1092 or department approval.

**Pre- or corequisite:** MEMS 2102.

Focuses on Microelectromechanical systems (MEMS) surface and bulk fabrication processes including photolithography, wet and dry anisotropic and isotropic etch, and thin film deposition methods. These processes are also used in semiconductor and nanotechnology applications. Students will fabricate an actual microsystems device at the University of New Mexico's MTTC cleanroom. No books or lab materials are required; all is provided.

**Note(s):**

- 45 lab hours

### **MEMS 2206 - MEMS Design Theory**

**2 credit hour(s)**

**Prerequisite:** MEMS 1002 + MEMS 1092 or department approval.

**Pre- or corequisite:** MEMS 2292 + MEMS 2102 or department approval.

Focuses on Microelectromechanical systems (MEMS) design. Introduces design methods and standards utilizing MEMS Computer Aided Design (CAD) software. Students will apply their knowledge of MEMS fabrication to design at the micrometer scale. No books required, all is provided online and includes reading, animations, and streaming lecture educational materials.

### **MEMS 2292 - MEMS Design Lab**

**1 credit hour(s)**

**Prerequisite:** MEMS 1002 + MEMS 1092 or department approval.

**Pre- or corequisite:** MEMS 2206.

Focuses on Microelectromechanical (MEMS) component design. Introduces design methods and standards utilizing MEMS Computer

Aided Design (CAD) software. Students will design several different MEMS components and the micrometer scale, and apply the acquired skills and knowledge to complete a semester project.

**Note(s):**

- 45 lab hours

## **Military Science**

### **MSL 1092 - Foundations of Officership Lab**

**1 credit hour(s)**

**Corequisite:** MSL 1101.

Training on basic soldier skills and tasks, such as land navigation, basic rifle marksmanship and movement as a member of a fire team and rifle squad. Practical application of field craft and soldier skills in a tactical environment.

### **MSL 1101 - Foundations of Officership**

**1 credit hour(s)**

Introduction to competencies central to the responsibilities of a commissioned officer. Establishes a framework for understanding officership, leadership and Army values in addition to life skills such as personal fitness, time management and stress management.

### **MSL 1102 - Basic Leadership**

**1 credit hour(s)**

This course expands on the fundamentals introduced in MSL 1101 focusing on communication, leadership and goal setting. Course builds on the previous course exposing students to different methodologies of critical thinking and problem solving.

### **MSL 1292 - Basic Leadership Lab**

**1 credit hour(s)**

**Corequisite:** MSL 1102.

Continuation of MSL 1092.

### **MSL 2092 - Individual Leadership Studies Lab**

**1 credit hour(s)**

**Corequisite:** MSL 1101.

Builds on the topics covered in MSL 1092 and MSL 1292.

Further in depth training on basic soldier skills and tasks, such as land navigation, basic rifle marksmanship and movement as a member of a fire team and rifle squad. Practical application of field craft and soldier skills in a tactical environment.

### **MSL 2192 - Individual Leadership Studies Lab**

**1 credit hour(s)**

**Corequisite:** MSL 2202.

Continuation of MSL 2092.

### **MSL 2201 - Individual Leadership Studies**

**2 credit hour(s)**

Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework (trait and behavior theories). Students practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus in on continued development of the knowledge of leadership values and attributes through an understanding of Army rank, structure, and duties and basic aspects of land navigation and squad tactics. Case studies provide tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operating environment (COE).

### **MSL 2202 - Leadership and Teamwork**

**2 credit hour(s)**

Examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). The course highlights dimensions of terrain analysis, patrolling and operation orders. Further study of the theoretical basis of the Army leadership framework explores the dynamics of adaptive leadership in the context of military operations. The course provides a smooth transition into MSL

301.

Cadets develop great self-awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios.

### **MSL 2219 - Directed Studies**

#### **1-3 credit hour(s)**

Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework (trait and behavior theories). MSL 2219 further provides a smooth transition into MSL 301. Cadets develop greater self-awareness as they assess their own leadership styles and practice communication and team building skills.

### **MSL 2220 - Military Fitness I**

#### **1-2 credit hour(s)**

**Corequisite:** MSL 1101 or MSL 2201.

Course is designed to teach students the principles of fitness, proper nutrition and a healthy lifestyle while exposing them to different methodologies of personal fitness.

### **MSL 2221 - Military Fitness II**

#### **1-2 credit hour(s)**

**Corequisite:** MSL 1102 or MSL 2202.

Continuation of MSL 2220.

## **Music**

### **MUS 1103 - Fundamentals of Music**

#### **4 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score. (Recommended: Experience with voice or instrument)

Introduces fundamentals of music notation, scales, key signatures and intervals, with application to aural comprehension through singing intervals, scales, triads, dictating simple rhythmic and melodic patterns.

### **MUS 1109 - Group Voice I**

#### **3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course offers a study of the voice. Students will learn vocal fundamentals such as respiration, phonation, resonance, and articulation and will demonstrate their understanding of these fundamentals as well as how to use their voices in a healthy and efficient manner primarily by singing folk and classical songs in a group setting.

### **MUS 1111 - Class Piano I**

#### **3 credit hour(s)**

Beginning repertoire and sight-reading, basic scale and chord patterns in major keys. For the complete beginner.

### **MUS 1112 - Class Piano II**

#### **3 credit hour(s)**

**Prerequisite:** MUS 1111.

A continuation from MUS 1111.

Late elementary repertoire, sight-reading moving out of the five-finger position, major and minor scale and chord patterns.

### **MUS 1139 - Early Music Appreciation**

#### **3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Surveys basic musical elements and their development from early Greece to the Classical period in a non-technical approach. Requires attendance at live musical performances.

## **MUS 1140 - Modern Music Appreciation**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Emphasizes study of symphonic music, chamber music and vocal literature from the Romantic period to the 21st century in a non-technical approach. Requires attendance at live musical performances.

## **MUS 1172 - Introduction to Jazz**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Introduces jazz as a modern musical form and emphasizes its evolution during the 20th century.

## **MUS 1290 - Music Practicum**

**1-3 credit hour(s)**

**Prerequisite:** MUS 1103 + department approval.

Music Practicum complements MUS 1103 and the performance classes in Music (Piano I & II, Guitar) by providing on-the-job musical training or performance. Requires students to complete a minimum of 45 hours in a community, professional, or educational music production.

## **MUS 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **MUS 2271 - Music Today**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

This course is a study of music in the United States, how Western art music, folk music, sacred music, and popular music developed from America's early beginnings to modern times, with a focus on the societal history that shaped the music to its modern cultural influences.

# **Native American Studies**

## **NATV 1150 - Introduction to Native American Studies**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Investigates present-day perspectives and historical and social conditions that have shaped and affected the lives of Native Americans.

# **Natural Science**

## **NS 1010 - Physical Science for Teachers**

**4 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Introduces the science of geology, chemistry, physics and astronomy, with emphasis on the sciences processes, inquiry and the integration of technology. This course is activity based utilizing problems and issues based approach, various teaching methods are modeled and practiced by students. Some field trips may be required.

## **NS 1015 - Life Science for Teachers**

**4 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

Uses activities for the study of science topics including botany, cell biology, genetics, micro-biology and zoology with emphasis on science processes, inquiry and the integration of technology. Various teaching methods are modeled and practiced by students. Some

field trips may be required.

## **NS 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **NS 2010 - Environmental Science for Teachers**

**4 credit hour(s)**

**Prerequisite:** ENG 1101.

Introduces major issues in environmental science with emphasis on science process, scientific investigations and field-based activities and the integration of technology. Course topics include current issues on population, healthy ecosystems and natural resources. Various teaching methods are modeled and practiced by students.

## **Naval Science Studies**

### **NAVS 1101 - Principles and Concepts of Naval Science**

**3 credit hour(s)**

Introduces the naval service, customs, traditions, courtesies and naval officers communities.

**Note(s):**

- Fall only

### **NAVS 1105 - Naval Ship Systems I**

**3 credit hour(s)**

Introduces naval engineering systems concepts and practices.

**Note(s):**

- Spring only

### **NAVS 1192 - Naval Professional Laboratory**

**1 credit hour(s)**

Offers drills and information for NROTC students.

**Note(s):**

- 30 lab hours
- Fall, spring only.

### **NAVS 1193 - Navy & Marine Corps Fitness**

**1 credit hour(s)**

This course will develop, enhance and solidify physical fitness levels of future Navy and Marine Corps Officers. It will incorporate various core, cardio, and muscle strengthening events derived from Navy and Marine Corps standards.

### **NAVS 2201 - Naval Ship Systems II**

**3 credit hour(s)**

Explores the principles of naval weapons systems.

**Note(s):**

- Fall only

### **NAVS 2202 - Sea Power**

**3 credit hour(s)**

Surveys US naval history from the American Revolution to the present.

**Note(s):**



- Fall only

### **NAVS 2203 - Navigation**

#### **3 credit hour(s)**

Offers theory, principles and procedures of ship coastal and celestial navigation.

#### **Note(s):**

- Spring only

### **NAVS 2204 - Naval Operations**

#### **3 credit hour(s)**

Explores naval ship operations, tactical formations and dispositions; relative motion tactical plots and maneuvering boards are analyzed.

#### **Note(s):**

- Spring only

### **NAVS 2231 - Evolution of Warfare**

#### **3 credit hour(s)**

Surveys evolution of the basic principles and techniques of warfare throughout history.

#### **Note(s):**

- Fall only, even years.

### **NAVS 2241 - Leadership & Management**

#### **3 credit hour(s)**

Explores the structure and principles of naval leadership and management.

#### **Note(s):**

- Fall only

### **NAVS 2247 - Principles of Naval Leadership**

#### **3 credit hour(s)**

Examines the structure and principles of naval leadership and management.

#### **Note(s):**

- Spring only

### **NAVS 2251 - Amphibious Warfare**

#### **3 credit hour(s)**

Explores the concepts, techniques and history of amphibious warfare.

#### **Note(s):**

- Fall only, odd years.

## **Nursing**

### **NRSG 1010 - Introduction to Nursing Concepts**

#### **3 credit hour(s)**

**Prerequisite:** AAS Mathematics Requirement + ENG 1101 + BIO 2210 + BIO 2110 + BIO 2192 + PSY 1105 + PSY 2220 + BIO 2310 + BIO 2710 + (HESI Score: composite score 75% or higher, and no score in math, reading, grammar, vocabulary less than 75%. All scores must be from the same exam.) + department approval.

**Pre- or corequisite:** BIO 2711.

**Corequisite:** NRSG 1015.

This course introduces the nursing student to the concepts of nursing practice and conceptual learning.

### **NRSG 1015 - Principles of Nursing Practice**

**4 credit hour(s)****Corequisite:** NRSG 1010.

This course introduces the nursing student to the application of concepts through clinical skills in seminar, laboratory, and/or clinical settings. Principles of communication, assessments, safety, and interventions including accurate calculation, measurement, and administration of medications will be included

**Note(s):**

- 15 theory hours
- 135 lab hours

**NRSG 1510 - Health and Illness Concepts I****3 credit hour(s)****Prerequisite:** NRSG 1010 + NRSG 1015 + BIO 2711.**Corequisite:** NRSG 1520 + NRSG 1530 + NRSG 1535.

This course will focus on health and illness concepts across the lifespan, with the focus on wellness and common variations. Concepts covered are related to homeostasis/regulation, sexuality/reproductive, protection/movement and emotional processes.

**NRSG 1520 - Health Care Participant****3 credit hour(s)****Corequisite:** NRSG 1510 + NRSG 1530 + NRSG 1535.

This course introduces the nursing student to the attributes of the health care participant as an individual, a family, or a community.

**NRSG 1530 - Nursing Pharmacology****3 credit hour(s)****Corequisite:** NRSG 1510 + NRSG 1520 + NRSG 1535.

This course introduces the nursing student to pharmacologic nursing practice from a conceptual approach.

**NRSG 1535 - Assessment and Health Promotion****4 credit hour(s)****Corequisite:** NRSG 1510 + NRSG 1520 + NRSG 1530.

This course introduces the nursing student to the assessment of and the health promotion for the health care participant as an individual, a family, or a community. This course uses seminar, laboratory and/or clinical.

**Note(s):**

- 15 theory hours
- 135 clinical hours

**NRSG 1584 - Concepts for Transition Students****2 credit hour(s)****Prerequisite:** AAS MATH Requirement + BIO 2110 + BIO 2192 + BIO 2210 + BIO 2310 + BIO 2710 + BIO 2711 + ENG 1101 + PSY 1105 + PSY 2220 + department approval.

This course introduces the conceptual framework of the nursing program and study of the nursing process. Learning objectives of this course enable the students' transition from the role as a licensed practical nursing to the role of the registered nurse as well as prepare students for the rigors of the concept based ADN program.

**NRSG 2010 - Health & Illness Concepts II****3 credit hour(s)****Prerequisite:** NRSG 1510 + NRSG 1520 + NRSG 1530 + NRSG 1535.**Corequisite:** NRSG 2020 + NRSG 2090.

This course will cover health and illness concepts across the lifespan. Concepts covered are related to oxygenation and hemostasis, homeostasis and regulation, protection and movement, and emotional processes.

**NRSG 2020 - Professional Nursing Concepts****3 credit hour(s)**

**Corequisite:** NRSB 2010 + NRSB 2090.

This course covers foundational concepts for professional development, including selected professional attributes and care competencies.

### **NRSB 2090 - Care of Patients with Chronic Conditions**

**4 credit hour(s)**

**Corequisite:** NRSB 2010 + NRSB 2020.

The focus of this course is to provide safe, evidence-based nursing care for patients with chronic conditions, across the lifespan in a variety of settings. This course builds upon curricular concepts. This course is a combination of lab and clinical.

**Note(s):**

- 180 clinical hours

### **NRSB 2510 - Health & Illness Concepts**

**4 credit hour(s)**

**Prerequisite:** BIO 2711 + NRSB 2010 + NRSB 2020 + NRSB 2090.

**Corequisite:** NRSB 2515 + NRSB 2899.

This course will cover health and illness concepts, with the focus on acute conditions across the lifespan. Concepts covered are related to homeostasis/regulation, oxygenation/hemostasis, protection/movement and cognitive/behavioral processes.

### **NRSB 2515 - Clinical Intensive I**

**4 credit hour(s)**

**Corequisite:** NRSB 2510 + NRSB 2899.

This is the first of two Level Four clinical courses in which the student will apply the curricular concepts in the management of care participants with acute conditions across the lifespan. This course is a combination of seminar, lab, and clinical.

**Note(s):**

- 15 theory hours
- 135 clinical hours

### **NRSB 2899 - ADN Capstone**

**2 credit hour(s)**

**Corequisite:** NRSB 2510 + NRSB 2515.

This course prepares the student for entry-level nursing practice as an associate degree graduate. The focus of the course is management of individuals across the lifespan with chronic, acute and select complex conditions. This course is a combination of seminar, lab, and clinical. (90 clinical hours).

### **NRSB 2999 - ADN Capstone**

**6 credit hour(s)**

**Corequisite:** NRSB 2510 + NRSB 2515.

This course prepares the student for entry-level nursing practice as an associate degree graduate. The focus of the course is management of individuals across the lifespan with chronic, acute and select complex conditions. This course is a combination of seminar, lab, and clinical.

**Note(s):**

- 60 theory hours
- 90 clinical hours

## **Nursing Assistant**

### **NA 1020 - Principles of Nursing Assistant**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Pre- or corequisite:** HLTH 1001.

**Corequisite:** NA 1093 + NA 1190.

This course emphasizes the roles and responsibilities of the Nursing Assistant. The course provides instruction in patient's rights, communications with the health team, body structure and function, infection prevention, nutrition, principles of growth and development, safety in healthcare, home health care, and care of the older person.

### **NA 1093 - Principles of Nursing Assistant Lab**

**2 credit hour(s)**

**Pre- or corequisite:** NA 1020 + NA 1190.

This course provides laboratory instruction and practice of basic patient care skills required for Nursing Assistants. Skills practiced include patient assistance with activities of daily living, personal care, transfer and positioning, vital sign measurement, intake and output measurement, restorative care, and communication.

**Note(s):**

- 90 lab hours

### **NA 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **NA 1190 - Nursing Assistant Clinical**

**1 credit hour(s)**

**Corequisite:** NA 1020 + NA 1093.

This clinical course provides the opportunity for students to practice supervised basic patient care in a long-term or skilled nursing unit setting.

**Note(s):**

- 45 clinical hours

## **Nursing Refresher**

### **NR 2110 - Nursing Refresher Course**

**7 credit hour(s)**

**Prerequisite:** Active or temporary New Mexico license to practice as an LPN or RN + A current professional CPR card.

**Corequisite:** NR 2190.

Course is designed to provide nurses with an opportunity to update their knowledge and skills of pharmacology, dosage calculation and medical surgical nursing.

### **NR 2190 - Nurse Refresher Clinical Application**

**2 credit hour(s)**

**Prerequisite:** Active or temporary New Mexico license to practice as an LPN or RN + A current professional CPR card.

**Corequisite:** NR 2110.

Course is designed to provide nurses with an opportunity to update their practice in a medical surgical or skilled nursing facility.

**Note(s):**

- 90 clinical hours

## **Nutrition**

### **NUTR 1010 - Personal and Practical Nutrition**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** NUTR 1092.\*

Presents nutrition concepts from a practical viewpoint that can be applied to personal goals. Includes current and controversial topics: individual nutrient needs, alternative eating patterns, nutrition as part of disease prevention and applications of these principles in food

preparation. Fulfills nutrition requirement for culinary arts but is not the required course for nursing or other health science majors.

\*It is recommended that students take NUTR 1092 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **NUTR 1015 - Introduction to Medical Nutrition Therapy**

**3 credit hour(s)**

**Pre- or corequisite:** NUTR 1010.

This course explores the fundamentals of medical nutrition therapy for various symptoms and disease states. It is intended for students enrolled in the Dietary Manager program.

### **NUTR 1020 - Sports Nutrition**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

This course will explore the role of nutrition in physical performance of competitive and recreational sports participants.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **NUTR 1090 - Dietary Manager Internship I**

**2 credit hour(s)**

**Pre- or corequisite:** (CULN 1103 or CULN 1003) + NUTR 1010 + NUTR 1015 or department approval.

This course provides a learning experience in clinical and community environments with emphasis on developing skills in Nutrition/ Medical Nutrition Therapy and Sanitation/Food Safety. This is a coordinated supervised practice field experience requiring a minimum of 90 hours and is required for students seeking a Dietary Manager, Certificate of Completion. The course prepares learners to complete nutritional assessments and care plans for patients; describe the nutritional needs of people across the life cycle; prepare menus and transpose these to modified diets; develop infection control program based on principles of sanitation; and develop a preventative accident program to reduce work related accidents.

### **NUTR 1091 - Dietary Manager Internship II**

**2 credit hour(s)**

**Pre- or corequisite:** (CULN 1010 or CULN 1100) + HT 2201.

This course provides a learning experience in clinical and community environments with emphasis on developing skills in Management of Food Service Operations and Human Resource Management. Focus areas include quality improvement and evaluation of service, meal planning, recipe development, safe and sanitary food procurement and production methods, facility layout and design, staffing, marketing, and financial management. This is a coordinated supervised practice field experience requiring a minimum of 90 hours and is required for students seeking a Dietary Manager, Certificate of Completion.

### **NUTR 1092 - Personal and Practical Nutrition Lab**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** NUTR 1010.

This course introduces non-science majors to the basic science of nutrition. Information required to understand a variety of nutrition topics currently in the news affecting our community and society, and to promote nutritional science literacy in the public arena, will be presented. Students will investigate their own dietary practices using dietary assessment tools and apply the scientific principles of human nutrition to promote personal health and well-being. Case studies, problems and laboratory exercises will contribute to the process of scientific inquiry and help students to value science as a way to develop reliable nutrition knowledge.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **NUTR 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **NUTR 2096-2996 - Special Topics**

#### **1-3 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **NUTR 2110 - Human Nutrition**

#### **3 credit hour(s)**

**Pre- or corequisite:** CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement score.

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

## **Occupational Safety and Health**

### **OSH 2006 - Occupational Safety for Construction I**

#### **1 credit hour(s)**

Introduces students to OSHA policies, procedures and standards, construction safety and health principles. The scope and application of the OSHA Construction Safety Standard will be addressed with emphasis on high hazard areas. Students successfully completing the course will receive a Department of Labor card acknowledging completion of the 10-hour awareness course for 29 CFR 1926.

### **OSH 2010 - Occupational Safety for Construction - 30 Hour**

#### **3 credit hour(s)**

Introduces students to Occupational Safety and Health Act policies, procedures, standards, construction safety and health principles. The scope and application of the OSHA Construction Safety Standard will be addressed with emphasis on high hazard areas.

#### **Note(s):**

- An OSHA Construction Industry Outreach Training Program 30 hour card is awarded upon successful course completion.

### **OSH 2016 - Occupational Safety I**

#### **1 credit hour(s)**

Introduces inspections, personal protective equipment, fire protection, hazardous materials, walking/working surfaces, electrical standards and bloodborne pathogens. An OSHA General Industry Outreach Program 10-hour certificate is awarded on successful completion.

### **OSH 2017 - Occupational Safety II**

#### **1 credit hour(s)**

Covers lock-out/tag-out, material handling, hazardous communication (MSDS and labeling), machine guarding, welding/cutting/brazing, confined spaces, hearing conservation and general environmental controls.

### **OSH 2018 - Occupational Safety III**

#### **1 credit hour(s)**

Introduces hazardous substances, respiratory standards, hazard analysis, record keeping and workers' compensation. An OSHA General Industry Safety and Health Outreach Program 30-hour certificate will be awarded on successful completion of OSH 2016, OSH 2017 and OSH 2018.

### **OSH 2030 - Occupational Safety General Industry 30 Hour**

#### **3 credit hour(s)**

Course introduces hazard recognition, analysis, and safe working practices for common general industry hazards such as walking/working surfaces, electrical, blood borne pathogens, health hazards, lock-out/tag-out, material handling, machine guarding, welding, and confined spaces. Includes record keeping, hazardous communication, inspections and general environmental control methods. An OSHA General Industry Safety and Health Outreach Program 30-hour certificate will be awarded on successful completion.

### **OSH 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Office Technology

**OTEC 1096-1996 - Special Topics****1-3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. See *Schedule of Classes*.

**OTEC 1101 - Beginning Keyboarding****3 credit hour(s)**

Teaches proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required.

**OTEC 1102 - Keyboard Skillbuilding****2 credit hour(s)**

**Prerequisite:** OTEC 1101.

Continues development of speed and accuracy. A minimum average speed of 35 wpm on three five-minute timings is required.

**Note(s):**

- Course taught in a computer lab.

**OTEC 1103 - Keyboard Skillbuilding II****1 credit hour(s)**

**Prerequisite:** OTEC 1102.

Focuses on building speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required.

**Note(s):**

- Course taught in a computer lab.

**OTEC 1125 - Writing, Proofreading and Editing****3 credit hour(s)**

**Prerequisite:** BA 1121.

Develop proofreading skills: punctuation, grammar, spelling and usage errors. Edit documents for appropriate content, conciseness, clarity and point of view. Compose effective business letters, e-mails, memos, and reports.

**OTEC 1161 - Records and Information Management****3 credit hour(s)**

**Recommended:** IT 1010.\*

Presents an introduction to the field of records management. Covers principles and practices of effective records management for manual and electronic records systems. Alphabetic filing rules compatible with Association of Records Managers and Administration (ARMA) guidelines are introduced, along with methods of storing and retrieving alphabetic, subject, numeric and geographic records.

\* Student needs a basic understanding of Word and file management skills for this course.

**OTEC 1170 - Business Telephone Techniques****1 credit hour(s)**

Presents concepts to develop effective speaking, listening and questioning skills. Methods for handling incoming calls, outbound calls, customer orders, customer problems and customer complaints.

## **OTEC 1175 - Computers in the Medical Office**

### **2 credit hour(s)**

Introduces tasks performed in a medical office utilizing a computerized software package, including scheduling appointments, gathering and recording patient information, recording diagnoses and procedures, billing patients, filing insurance claims, recording payments and preparing reports.

## **OTEC 2095 - Cooperative Education**

### **3 credit hour(s)**

**Prerequisite:** Department approval.

Requires a minimum of 135 hours in a new office-related position. If the student is currently employed in area of study, the 135 hours must involve a new learning experience. Student trainees are paid by the cooperating firm and supervised jointly by CNM and the employer. The student and employer determine the weekly contact hours.

## **OTEC 2096-2996 - Special Topics**

### **1-3 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **OTEC 2097 - Independent Study**

### **1-6 credit hour(s)**

**Prerequisite:** Department approval.

Requires the student and instructor to define a specific problem in the area of the student's interest and directly related to the program. Student develops and executes a solution using analytical techniques to the problem. An oral presentation may be required.

## **OTEC 2098 - Internship**

### **3 credit hour(s)**

**Prerequisite:** Department approval.

Requires a minimum of 135 hours at office-related supervised workstations. If the student is currently employed in area of study, the 135 hours must involve a new learning experience. Students are not paid for their work but are supervised jointly by CNM and the employer. The student and employer determine the weekly contact hours.

## **OTEC 2201 - Document Production and Integration**

### **3 credit hour(s)**

**Prerequisite:** CIS 1120.

**Pre- or corequisite:** CIS 1173 + OTEC 1102.

Create and format documents to develop business document production skill. Presents advanced applications for document integration.

#### **Note(s):**

- Course taught in a computer lab.

## **OTEC 2260 - Office Procedures**

### **3 credit hour(s)**

**Prerequisite:** BA 1121 + CIS 1120.

**Pre- or corequisite:** CIS 1173 + OTEC 2201.

**Recommended:** OTEC 1103 + OTEC 1125.

Covers office procedures, office technology, ethics, telecommunications and job portfolio.

\* Students will benefit from a foundational knowledge in writing, editing and proofreading and have advanced keyboarding skills.

#### **Note(s):**

- Typically offered Fall & Spring terms only.

## **OTEC 2270 - Medical Transcription**

### **3 credit hour(s)**



**Prerequisite:** BA 1121 + CIS 1120 + OTEC 1102 + HIT 1020.

Students will learn to transcribe a variety of medical reports, letters, and memorandums according to the American Association for Medical Transcription (AAMT) and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) guidelines.

**Note(s):**

- Typically offered Summer & Fall terms only.

## Paralegal Studies

### PL 1096-1996 - Special Topics

**1-3 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### PL 1110 - Introduction to Paralegal Studies

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** IT 1010.\*

Introduces concepts such as the definition and role of the paralegal, ethical responsibilities, professionalism, the legal system, legal research and analysis, legal and office procedures, technology in the law and topics in substantive law.

\* This course requires a proficiency in word processing.

### PL 1120 - American Law and Ethics

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Recommended:** IT 1010.\*

Covers concepts such as the origins, nature, history and structure of the American legal system and rules of professional conduct for lawyers and paralegals.

\* This course requires a proficiency in word processing.

### PL 1130 - Torts

**3 credit hour(s)**

**Pre- or corequisite:** PL 1110 + PL 1120.

Covers concepts in tort law, concentrating on negligence, products liability, non-physical injuries and their remedies and defenses and an introduction to causes of action.

### PL 1140 - Legal Research and Writing I

**3 credit hour(s)**

**Prerequisite:** BA 1121 + ENG 1101.

**Pre- or corequisite:** PL 1110 + PL 1120.

Covers concepts such as the principles and skills of writing case briefs and legal memoranda, with a focus on basic legal research sources and techniques, including Westlaw and other computer-assisted legal research. Significant time is spent at the UNM law library.

### PL 1150 - Court Operations and Ethics

**3 credit hour(s)**

This course introduces concepts about the New Mexico judiciaries, includes tracking of a civil and criminal case in each court. It also introduces concepts such as ethical and specific court operation issues with an emphasis on ethics in the workplace.

### PL 2095 - Cooperative Education

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides the opportunity to perform paralegal assignments in a legal environment. The student is paid by the cooperating firm and is jointly supervised by CNM and the supervising attorney. The student will be required to meet additional course requirements as provided by the instructor.

**Note(s):**

- 135 lab hours

## **PL 2096-2996 - Special Topics**

**1-3 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **PL 2097 - Independent Study**

**1-9 credit hour(s)**

**Prerequisite:** Department approval.

Explores a specific problem defined by student and instructor in the area of the student's interest and directly related to the program. Student develops and executes a solution using analytical techniques to the problem. A legal research paper or project is completed. An oral presentation may be required.

## **PL 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides the opportunity to perform paralegal assignments in a legal environment. The student is jointly supervised by CNM and the supervising attorney and the student will be required to meet additional course requirements as provided by the instructor.

**Note(s):**

- 135 lab hours

## **PL 2120 - Civil Litigation**

**3 credit hour(s)**

**Prerequisite:** CIS 1120 + ENG 1102 + PL 1130 + PL 1140.

Covers concepts such as the process of civil litigation from initial client contact through post-trial procedures. Rules of civil procedure and rules of the various courts are covered. Students develop a forms and procedures notebook.

## **PL 2130 - Criminal Litigation**

**3 credit hour(s)**

**Prerequisite:** CIS 1120 + ENG 1102 + PL 1130 + PL 1140.

Covers concepts such as the process of criminal litigation from initial appearance through post-conviction proceedings. Students will draft documents associated with the prosecution or defense at various stages, review rules of criminal procedure of several courts and develop a forms and procedures notebook.

## **PL 2140 - Legal Research and Writing II**

**3 credit hour(s)**

**Prerequisite:** CIS 1120 + ENG 1102 + PL 1130 + PL 1140.

Continues development of legal research, analysis and writing skills, with the focus on advanced legal research problems.

## **PL 2150 - Evidence**

**3 credit hour(s)**

**Prerequisite:** CIS 1120 + ENG 1102 + PL 1130 + PL 1140.

Examines how facts are proved in civil and criminal trials, with focus on rules of evidence in state and federal courts; emphasizes admissibility, relevance, credibility and authenticity of witness testimony, documents and other proof.

## **PL 2160 - Law Office Management**

**3 credit hour(s)**

**Prerequisite:** CIS 1120 + ENG 1102 + PL 1130 + PL 1140.

Prepares students to coordinate and oversee the administrative functions of a small to medium firm. Includes ethics, law office systems, timekeeping, technology and personnel management.

## **PL 2220 - Wills Probate and Estate Planning**

**3 credit hour(s)**

**Prerequisite:** (PL 2120 or PL 2130) + PL 2140 + PL 2150 + PL 2160.

Covers concepts such as the drafting of wills and trusts, administration of estates, formal and informal probate proceedings and estate tax returns. A review of the probate code and drafting projects are included.

## **PL 2240 - Paralegal Computer Applications**

**3 credit hour(s)**

**Prerequisite:** PL 1120 + PL 1130 + PL 1140.

Course content includes computer applications in legal research including legal databases, internet resources, law-oriented concepts and applications using word processing, spreadsheets, data management programs, and introduces students to various law-oriented software in the area of case management, time and billing, deposition digest and calendaring and docket control.

## **PL 2415 - Business Organizations**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Covers concepts such as the various types of business entities including sole proprietorships, partnerships, limited liability companies and corporations. Agency principles, regulatory requirements and business ethics are also included.

## **PL 2420 - Contract Law**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on the law of contracts, rights and responsibilities, formation, consideration, enforceability, remedies and third parties, as well as case study and analysis. The student will draft a written contract.

## **PL 2425 - Domestic Relations**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on legal issues in family relations with emphasis on local procedures in the domestic relations court and its satellites.

## **PL 2430 - Constitutional Law**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on concepts such as civil rights and liberties under the Constitution, free speech, religious freedom, racial discrimination, group rights, privacy, political participation and various contemporary issues.

## **PL 2435 - Civil Litigation II**

**3 credit hour(s)**

**Prerequisite:** PL 2120 + PL 2140 + PL 2150.

Implements concepts learned in Civil Litigation through student participation in the hypothetical case and study, completing more sophisticated tasks in civil litigation, evidence rules, concepts and objections.

## **PL 2440 - Criminal Litigation II**

**3 credit hour(s)**

**Prerequisite:** PL 2130 + PL 2140 + PL 2150.

Implements concepts learned in Criminal Litigation through student participation in a hypothetical case and study, completing more

sophisticated tasks in criminal litigation, evidence rules, concepts and objections.

### **PL 2445 - Personal Injury Law**

**3 credit hour(s)**

**Prerequisite:** PL 1130 + PL 1140 or department approval.

Focuses on the medical aspects and documentation of personal injuries in tort, workers' compensation and Social Security disability law.

### **PL 2450 - Administrative Law**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on the policies, practices and procedures of governmental agencies and state and local administrations.

### **PL 2455 - Employment Law**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on the history of discrimination law and current federal protections, the principle of equal treatment, litigation involving unequal treatment, seniority, sexual and racial harassment, pay equity, labor relations and remedies.

### **PL 2460 - Native American Law**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on Native American law to prepare students to work in private law firms or other settings that specialize in Native American law or that practice in tribal courts or other tribunals that consider interests of individuals as natives or Indian groups.

### **PL 2465 - Social Security Law**

**3 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on representing clients through the Social Security administration process, disability evaluation, procedural issues and regulations, federal law and medical terminology.

### **PL 2470 - Bankruptcy Law**

**1 credit hour(s)**

**Prerequisite:** PL 1140 or department approval.

Focuses on bankruptcy practice, Bankruptcy Code and Rules of Bankruptcy Procedure.

### **PL 2520 - Mediation**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Introduces fundamental skills involved in mediating disputes. Students find and cover the expenses of their own training programs. CNM supervision of the student's experience must be arranged between the student and an instructor, for a total of 45 hours under a written agreement provided by the Paralegal Studies office. Students may complete written assignments to fulfill some of the required hours at the discretion of the instructor. The student is jointly evaluated by the mediation trainer and the instructor or will be required to produce a certificate of completion of a recognized mediation training program. The course is offered subject to availability of trainers.

### **PL 2530 - Public Defender**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Requires students to work 135 hours in the local Public Defender's Office under the supervision of an attorney or attorney's designate and become familiar with all forms of case preparation for indigent criminal defendants. CNM supervision of the student's experience must be arranged between the student and an instructor under a written agreement provided by the Paralegal Studies office. The student is jointly evaluated by the Public Defender's Office and the instructor. The course is offered subject to availability of a supervising attorney or attorney's designate.

# Patient Care Tech

## PCT 1020 - Patient Care Technician

**4 credit hour(s)**

**Prerequisite:** (IRW 0980 + MATH 0970 or appropriate placement score) + (HLTH 1001 + NA 1020 + NA 1093 + NA 1190) or (HLTH 1001 + EMS 1190 + EMS 1053 + EMS 1093) or EMS 1890.

**Corequisite:** PCT 1090 + PCT 1092.

Provides instruction needed to function as a Patient Care Technician including communication with patients and the healthcare team, medical terminology, principles of sterile technique, urinary catheterization, 12-lead EKG acquisition, venipuncture, point of care testing and other concepts related to the care of a patient in an acute care setting.

## PCT 1090 - Patient Care Tech Clinical Experience

**2 credit hour(s)**

**Corequisite:** PCT 1020 + PCT 1092.

Provides students who have successfully completed the Patient Care Tech course with clinical experience in an acute care setting or clinic. Students will perform the skills within the role of the patient care tech on various inpatient units. Background check and drug screen required.

**Note(s):**

- 90 clinical hours

## PCT 1092 - Patient Care Technician Lab

**3 credit hour(s)**

**Corequisite:** PCT 1020 + PCT 1090.

Provides supervised practice in a laboratory and simulation setting of concepts and skills related to caring for the hospitalized patient.

**Note(s):**

- 135 Lab hours

# Pharmacy Technician

## PT 1003 - Pharmacy Calculations

**3 credit hour(s)**

**Prerequisite:** CHEM 1410 + CHEM 1492 + IRW 0980 + MATH 0970 + department approval.

**Pre- or corequisite:** IT 1010.

**Corequisite:** PT 1010 + PT 1015 + PT 1092.

Provides skills in pharmaceutical calculations necessary for safely compounding and preparing prescriptions or other pharmacy products.

## PT 1010 - Introduction to Pharmacy Technology

**3 credit hour(s)**

**Corequisite:** PT 1003 + PT 1015 + PT 1092.

Provides a discussion of the pharmacy technician's role, the history of pharmacy, state and federal laws, ethics, professional standards of practice, prescription preparation and institutional drug distribution.

## PT 1015 - Pharmacy Technician Anatomy and Physiology

**3 credit hour(s)**

**Corequisite:** PT 1010 + PT 1003 + PT 1092.

Provides an introduction to basic human anatomy and physiology, with emphasis on physiology as the foundation for pharmacology.

## PT 1092 - Pharmacy Technician Lab I

**2 credit hour(s)**

**Corequisite:** PT 1003 + PT 1010 + PT 1015.

Focuses on the fundamentals of current pharmacy practice, including drug nomenclature, medical terminology and basic pharmacy skills. Lab includes practice in interpreting prescriptions, introduction to packaging and dispensing medications, extensive theory and

experiential training in aseptic preparation of compounded sterile products including use of Laminar flow hood for media fill validation testing. (90 lab hours per term).

**Note(s):**

- 90 lab hours

### **PT 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **PT 1510 - Advanced Pharmacy Technology**

**3 credit hour(s)**

**Prerequisite:** PT 1010 + PT 1003 + PT 1015 + PT 1092 + IT 1010 + HLTH 1001.

**Pre- or corequisite:** COMM 1130 or COMM 2221 or COMM 2225 or COMM 2232.

**Corequisite:** PT 1515 + PT 1590 + PT 1592.

Continues study of dosage forms and routes of administration; covers techniques for compounding of drug products; drug selection, packaging and stability; practical aspects of successful employment and customer service; and theory relating to parenteral products.

### **PT 1515 - Pharmacology for Pharmacy Technicians**

**3 credit hour(s)**

**Corequisite:** PT 1510 + PT 1590 + PT 1592.

Presents study of therapeutic drug categories, how drugs produce their effects and common side effects.

### **PT 1590 - Pharmacy Technician Practicum**

**5 credit hour(s)**

**Corequisite:** PT 1510 + PT 1515 + PT 1592.

Provides students the opportunity for practical experience, within institutional and community pharmacies, applying skills gained through classroom and lab instruction.

**Note(s):**

- 225 clinical hours

### **PT 1592 - Pharmacy Technician Lab II**

**2 credit hour(s)**

**Corequisite:** PT 1510 + PT 1515 + PT 1590.

Provides further opportunity to develop skills in both non-sterile and sterile compounding of drug products, use of a laminar flow hood, reconstituting, compounding, packaging and labeling. Emphasis on preparation for the national Pharmacy Technician Certification Exam (PTCE).

**Note(s):**

- 90 lab hours

## **Philosophy**

### **PHIL 1102 - Ethics in Society**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Examines important ethical theories and contemporary moral issues such as war and violence, the death penalty, euthanasia, privacy, animal rights and world hunger. Assists students in critically examining their own views and those of others, past and present, on these issues.

### **PHIL 1110 - Introduction to Philosophical Thought**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Surveys the philosophical issues addressed by great thinkers of the western tradition. Introduces questions about knowledge, reality, goodness, the idea of God, government and society and the self.

\* This course requires writing critical essays utilizing multiple source materials.

### **PHIL 1156 - Logic and Critical Thinking**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces the tools of reason helpful in everyday decision making, skills for argument analysis and effective communication of ideas. Surveys informal fallacies and formal deductive systems.

### **PHIL 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **PHIL 2201 - Greek Philosophy**

**3 credit hour(s)**

**Prerequisite:** ENG 1101.

This will be a 2000-level introductory survey of early and classical Greek philosophy. The course will include discussion of: The Presocratics, Sophists, Socrates, Plato and Aristotle. Topics to be discussed: beginnings of scientific thought, theories of the self, the concept of being, virtue ethics, ethical relativism, happiness, and theories of justice.

### **PHIL 2202 - Modern Philosophy**

**3 credit hour(s)**

**Prerequisite:** ENG 1101.

This is a 2000-level introductory survey of early modern philosophy. The course will include discussion of early scientific empiricists, the continental rationalist tradition, British empiricism, and Kant's synthesis of the two systems. Topics to be discussed include: early scientific thought, theories of the self, theories of knowledge and metaphysics, and early political philosophy.

### **PHIL 2244 - Introduction to Existentialism**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Focuses on the development of existentialist themes including authenticity, freedom, and meaninglessness from the nineteenth century to today. Examines representative authors in the tradition such as Kierkegaard, Nietzsche, Sartre, and de Beauvoir. Explores the effects of existentialism within philosophy and culture at large.

PHIL 2245 - Business Ethics

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides a forum for discussion of the ethical and social problems affecting the business community. Examines differing views of economic justice.

### **PHIL 2246 - Environmental Ethics**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides a forum for discussion of the ethical and social problems concerning the relationship between human activity (farming, industry, etc.) and the Earth's environment.

### **PHIL 2247 - Biomedical Ethics**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides a forum for discussion of the ethical and social problems affecting the medical professional and the practice of medicine.

**PHIL 2248 - Ethics of Technology****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides a forum for discussion of the ethical and social problems arising from the uses of computers and technology.

## Phlebotomy

**PHLB 1010 - Phlebotomy Theory****3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score + HLTH 1001.

**Pre- or corequisite:** MLT 1001.

**Corequisite:** PHLB 1092.

Includes basic concepts in venipuncture and skin puncture procedures along with an overview of anatomy and physiology, medical terminology, quality assurance and medico-legal issues.

**PHLB 1090 - Clinical Phlebotomy****2 credit hour(s)**

**Pre- or corequisite:** PHLB 1010 + PHLB 1092.

Provides opportunity for students to practice phlebotomy procedures on actual patients in area hospitals and clinics.

**Note(s):**

- 120 clinical intensive hours

**PHLB 1092 - Phlebotomy Lab****2 credit hour(s)**

**Corequisite:** PHLB 1010.

Provides opportunity to practice phlebotomy skills and apply theory using artificial arms and human subjects.

**Note(s):**

- 90 lab hours

**PHLB 1096-1996 - Special Topics****1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Photonics

**PHOT 1003 - Fundamentals of Photonics****3 credit hour(s)**

This course presents: the elements of fiber optics including; theory and operation of fiber optics; integrated optics; optical circuitry. The course also presents light propagation theories. Safety procedures concerning lasers and related equipment are presented in this course.

**Note(s):**

- 30 theory hours
- 45 lab hours

**PHOT 1010 - Fiber Optics**



**3 credit hour(s)****Prerequisite:** PHOT 1003.

Presents optical wave-guides and fibers as well as Fiber Optics Telecommunication. The course covers basic fiber optics components and active devices such detectors for fiber optic systems, isolators, attenuators, circulators, couplers, cables, connectors, switches, pump lasers, transmission systems and repeaters.

**Note(s):**

- 30 theory hours
- 45 lab hours

**PHOT 2001 - Optics****6 credit hour(s)****Prerequisite:** PHOT 1001 .

Presents basic geometrical (ray) and physical (wave) optics. The course covers the basics of the light reflection and refraction and the use of simple optical elements. It reviews light wave interference, diffraction and polarization; the use of thin film coatings on mirrors; laser beam divergence in the near and far field; and the operation of such devices as gratings and quarter-wave plates. It also covers wave length, dispersion and refractive index measurements and the concept of modulation transfer function.

**Note(s):**

- 60 theory hours
- 90 lab hours

**PHOT 2003 - Photonics and Laser Systems****4 credit hour(s)****Prerequisite:** PHOT 1003.

This course applies the principles presented in PHOT 1003 as they relate to laser systems and photonics enabled technologies.

**Note(s):**

- 30 theory hours
- 90 lab hours

**PHOT 2010 - Advanced Fiber Optics****3 credit hour(s)****Prerequisite:** PHOT 1010.**Pre- or corequisite:** ELEC 2001 .

Introduces metrology of Fiber Optic systems. It also covers source of loss in fiber optics networks and components: insertion loss, return loss and polarization dependent loss. Current fiber optics systems are explored.

**Note(s):**

- 30 theory hours
- 45 lab hours

**PHOT 2013 - Advanced Photonics and Laser Systems****5 credit hour(s)****Prerequisite:** PHOT 2003.

This course is a continuation of PHOT 2003 with further exploration of lasers and optical systems and applied technologies.

**Note(s):**

- 30 theory hours
- 135 lab hours

**PHOT 2025 - Photonics Projects****4 credit hour(s)****Prerequisite:** PHOT 2020 + PHOT 2010.

Introduces the student to creative photonics design by participation in small project groups. Each group will select a photonics problem to solve by using innovative optical circuitry and possibly the construction of a working model.

**Note(s):**

- 15 theory hours
- 135 lab hours

**PHOT 2095 - Cooperative Education****3 credit hour(s)****Prerequisite:** Department approval.

Provides the opportunity for the student to work on a cooperative basis in an appropriate training program. Position is paid.

**PHOT 2096-2996 - Special Topics****1-7 credit hour(s)****Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**PHOT 2097 - Independent Study****1-7 credit hour(s)****Prerequisite:** Department approval.

Presents a problem to investigate and solve. The student designs the solution using a combination of techniques.

**PHOT 2098 - Internship****3 credit hour(s)****Prerequisite:** Department approval.

Provides the opportunity for the student to work for one term on a cooperative basis in an appropriate training program. The position is not paid.

**PHOT 2999 - Capstone****3 credit hour(s)****Pre- or corequisite:** PHOT 2020 .

Capstone projects course.

## Physics

**PHYS 1010 - Introduction to Physics****3 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Recommended:** MATH 0980\* and PHYS 1092.\*\*

This course surveys the basic concepts and phenomena of physics including mechanics, the properties of matter, heat, sound, electricity, magnetism and light.

\*It is recommended that students take MATH 0980 prior to taking PHYS 1010 as a working knowledge of basic algebra is useful.\*\*It is recommended that students take PHYS 1092 concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

**PHYS 1092 - Introduction to Physics Laboratory****1 credit hour(s)****Prerequisite:** IRW 0980 or appropriate placement score.**Pre- or corequisite:** MATH 0980 or appropriate placement score + PHYS 1010.

This course is an optional laboratory course that focuses on experiments and activities investigating the physical phenomena and concepts discussed in PHYS 1010. Topics of investigation will include mechanics, the properties of matter, heat, sound, electricity and magnetism, and light.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **PHYS 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **PHYS 1510 - Algebra-Based Physics I**

**4 credit hour(s)**

**Prerequisite:** MATH 1315 or MATH 1415 or MATH 1530 or MATH 1460 + IRW 0980 or appropriate placement score.

**Recommended:** PHYS 1592.\*

Introduces mechanics, sound and heat in non-calculus based format. Satisfies pre-medical, pre-dental pre-optometry and certain Technologies requirements.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **PHYS 1592 - Algebra-Based Physics I Laboratory**

**1 credit hour(s)**

**Prerequisite:** (IRW 0980 or appropriate placement score) + MATH 1315 or MATH 1415 or MATH 1530 or MATH 1460.

**Pre- or corequisite:** PHYS 1510.

Emphasizes real-time experiments in mechanics, heat and sound. Introduces computer data collection and analysis.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **PHYS 1610 - Algebra-Based Physics II**

**4 credit hour(s)**

**Prerequisite:** PHYS 1510.

**Recommended:** PHYS 1692.\*

Focuses on electricity, magnetism and optics in non-calculus-based setting.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **PHYS 1692 - Algebra-Based Physics II Laboratory**

**1 credit hour(s)**

**Pre- or corequisite:** PHYS 1610.

Focuses on experiments in electricity, magnetism and optics. Includes some computer simulations and data collection.

**Note(s):**

- 45 lab hours

### **PHYS 1710 - Calculus-Based Physics I**

**4 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** MATH 1710.

**Recommended:** PHYS 1792.\*

Introduces calculus-based study of mechanics and sound waves for science and engineering students.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

**Note(s):**

- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **PHYS 1792 - Calculus-Based Physics I Laboratory**

**1 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** PHYS 1710.

Focuses on real-time experiments in mechanics and waves. Includes computer and data collection and analysis.

**Note(s):**

- 45 lab hours
- Students not meeting the IRW 0980 prerequisite may elect to take CSE 1101 as a Pre- or Corequisite to this course.

### **PHYS 1810 - Calculus-Based Physics II**

**4 credit hour(s)**

**Prerequisite:** PHYS 1710.

**Pre- or corequisite:** MATH 1715.

**Recommended:** PHYS 1892.\*

Emphasizes heat, electricity and magnetism for science and engineering students in calculus-based setting.

\* It is strongly recommended that students take the lab course concurrently with the lecture. The lab experience serves to enhance the student's understanding of the concepts discussed in the lecture.

### **PHYS 1892 - Calculus-Based Physics II Laboratory**

**1 credit hour(s)**

**Pre- or corequisite:** PHYS 1810.

This laboratory course focuses on experiments in electricity, magnetism, and thermal physics.

**Note(s):**

- 45 lab hours

### **PHYS 2710 - Calculus-Based Physics III**

**4 credit hour(s)**

**Prerequisite:** PHYS 1810.

**Pre- or corequisite:** MATH 2710.

Emphasizes optics and topics in modern physics for science and engineering students in calculus-based setting.

## **Physical Therapy Assistant**

### **PTA 1010 - The Profession of Physical Therapy**

**1 credit hour(s)**

**Prerequisite:** AAS Mathematics Requirement + ENG 1101 + IT 1010.

This course introduces prospective Physical Therapist Assistant students to the profession and allows for career exploration related to physical therapist assistant.

### **PTA 1020 - Pre-PTA Anatomy Fundamentals**

**3 credit hour(s)**

**Prerequisite:** AAS Mathematics Requirement + ENG 1101 + IT 1010.+ (BIO 1310 + BIO 1392 ) or (BIO 2210 + BIO 2292 + BIO

2310 + BIO 2392).

This course introduces the prospective PTA student to in-depth anatomy and physiology of systems particularly important to the profession of physical therapy. Systems include muscular, skeletal, neuromuscular, cardiovascular and respiratory.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PTA 1110 - Orientation to Physical Therapist Assistant**

**3 credit hour(s)**

**Prerequisite:** PSY 1105 + HIT 1020 + BPCS 1092 + PTA 1010 + PTA 1020 + (BIO 1310 + BIO 1392) or (BIO 2210 + BIO 2292 + BIO 2310 + BIO 2392) + department approval.

**Corequisite:** PTA 1120 + **PTA 1130 + PTA 1140.**

Provides PTA students with fundamental information related to the profession of physical therapist assistant.

### **PTA 1120 - Clinical Kinesiology**

**3 credit hour(s)**

**Corequisite:** PTA 1110 + PTA 1130 + PTA 1140.

Covers physiological and kinesiological fundamentals as they relate to physical therapy.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PTA 1130 - PTA Pathophysiology**

**3 credit hour(s)**

**Corequisite:** PTA 1110 + PTA 1120 + PTA 1140.

This course covers the disease processes most commonly seen in physical therapy patients. Etiology, pathology, pathophysiology, signs and symptoms, diagnosis, treatment and prognosis are covered for each disease process.

### **PTA 1140 - PTA Procedures I**

**4 credit hour(s)**

**Corequisite:** PTA 1110 + PTA 1120 + PTA 1130.

This course is the first of two courses that introduces students to procedures performed by physical therapists and physical therapist assistants. This course combines the theory behind the procedures with development of the skills for providing therapeutic modalities that will be performed in the clinical setting later in the program.

**Note(s):**

- 45 theory hours
- 45 lab hours

### **PTA 1520 - Therapeutic Exercise**

**3 credit hour(s)**

**Corequisite:** PTA 1530 + PTA 1540 + PTA 1550.

This course covers the fundamentals of exercises used in physical therapy to help patients improve their health, especially with respect to recovery from injury or disease. Students will study the theory behind these exercises as well as practice them in the lab setting.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PTA 1530 - Orthopedics for PTA**

**3 credit hour(s)**

**Prerequisite:** PTA 1110 + PTA 1120 + PTA 1130 + PTA 1140.

**Pre- or corequisite:** HLTH 1001.

**Corequisite:** PTA 1520 + PTA 1540 + PTA 1550.

This course covers the theory aspect of orthopedics as it relates to physical therapy. Students will study pathologies associated with orthopedics as well as assessment and treatment of patients with orthopedic problems.

### **PTA 1540 - Clinical Neurology and Management**

**4 credit hour(s)**

**Corequisite:** PTA 1520 + PTA 1530 + PTA 1550.

This course covers the theory specific to neurological diseases as they relate to physical therapy along with assessment and treatment of patients with a history of neurological deficit.

**Note(s):**

- 45 theory hours
- 45 lab hours

### **PTA 1550 - Physical Agents**

**4 credit hour(s)**

**Corequisite:** PTA 1520 + PTA 1530 + PTA 1540.

This course prepares students for safe and effective application of physical agents in the treatment of patients.

**Note(s):**

- 45 theory hours
- 45 lab hours

### **PTA 2010 - PTA Procedures II**

**3 credit hour(s)**

**Prerequisite:** PTA 1520 + PTA 1530 + PTA 1540 + PTA 1550 + HLTH 1001.

**Corequisite:** PTA 2090.

This course is the second of two courses that introduces students to procedures performed by physical therapist assistants. This course combines the theory behind the procedures with development of the skills for providing therapy that will be performed in the clinical setting as part of the program.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PTA 2090 - Clinical Practicum I**

**4 credit hour(s)**

**Corequisite:** PTA 2010.

This course applies skills and knowledge learned in the PTA theory and lab courses to direct patient care in clinical settings. This course is integrated with PTA 2010. Students will be under the direct supervision of a clinical professional.

**Note(s):**

- 180 Clinical hours

### **PTA 2210 - Professional Issues**

**1 credit hour(s)**

**Prerequisite:** PTA 2010 + PTA 2090.

**Corequisite:** PTA 2290 + PTA 2390.

This course explores a variety of professional aspects that are related to physical therapy. Topics include ethical and legal considerations, team dynamics, preparing for board exams and licensure, etc.

### **PTA 2290 - Clinical Practicum II**

**6 credit hour(s)**

**Corequisite:** PTA 2210 + PTA 2390.

This course applies skills and knowledge learned in the PTA theory and lab courses to direct patient care in clinical settings. Students will be under the direct supervision of a clinical professional.

**Note(s):**

- 270 Clinical hours

### **PTA 2390 - Clinical Practicum III**

**5 credit hour(s)**

**Corequisite:** PTA 2210 + PTA 2290.

This course applies skills and knowledge learned in the PTA theory and lab courses to direct patient care in clinical settings. Students will be under the direct supervision of a clinical professional.

**Note(s):**

- 225 clinical hours

## **Plumbing**

### **PLMB 1105 - Plumbing and Safety Fundamentals**

**3 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Introduces the basic fundamentals of plumbing and emphasizes the importance of safety specific to the plumbing trades.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PLMB 1110 - Blueprint Reading**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1105.

Explores interpretation of residential and commercial blueprints and isometric drawings. The students are taught the basics of sketching and design.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **PLMB 1115 - Introduction to Gas Fitting and Pipe Laying**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1110 or department approval.

Investigates design layout, and installation of piping systems and the fundamentals of gas burning appliances.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **PLMB 1120 - Drain Waste and Vent I**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1115.

Emphasizes layout and design of drain and vent systems in residential buildings.

**Note(s):**

- 15 theory hours
- 45 lab hours

### **PLMB 1125 - Drain Waste and Vent II**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1130 or department approval.

Describes layout and design of drain and vent systems in commercial buildings.

**Note(s):**

- 15 theory hours
- 45 lab hours

**PLMB 1130 - Water Piping Systems****2 credit hour(s)**

**Pre- or corequisite:** PLMB 1120.

Introduces layout and design of water piping systems as well as the installation of plumbing fixtures.

**Note(s):**

- 15 theory hours
- 45 lab hours

**PLMB 1205 - Backflow Prevention****2 credit hour(s)**

**Pre- or corequisite:** PLMB 1235 or department approval.

Focuses on the requirements of the installation, repair and testing of backflow prevention assemblies. The successful completion of this course will qualify the student for a City of Albuquerque Backflow Tester's certificate.

**Note(s):**

- 15 theory hours
- 45 lab hours

**PLMB 1210 - Commercial Plumbing****2 credit hour(s)**

**Pre- or corequisite:** PLMB 1205.

Presents the different aspects of the commercial plumbing industry.

**Note(s):**

- 15 theory hours
- 45 lab hours

**PLMB 1215 - Plumbing Theory and Repair****2 credit hour(s)**

**Pre- or corequisite:** PLMB 1125 or department approval.

Focuses on maintenance and repair of plumbing fixtures and includes the scientific principles explaining why water supply and sewage systems work as well as mathematical principles of plumbing.

**Note(s):**

- 15 theory hours
- 45 lab hours

**PLMB 1220 - Plumbing Code Applications****3 credit hour(s)**

**Pre- or corequisite:** PLMB 1215.

Prepares student to take the hands-on and written portions of the Journeyman's test in the state of New Mexico.

**Note(s):**

- 30 theory hours
- 45 lab hours



## **PLMB 1225 - Building Maintenance and Repair**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1220 or department approval.

Presents requirements for installation and repair of heating and cooling systems for commercial and residential applications.

**Note(s):**

- 15 theory hours
- 45 lab hours

## **PLMB 1230 - Hydronics and Plumbing Systems**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1210 or department approval.

Explores hydronic heating and the special problems of the manufactured housing industry and rural plumbing.

**Note(s):**

- 15 theory hours
- 45 lab hours

## **PLMB 1235 - Gas Code Applications**

**3 credit hour(s)**

**Pre- or corequisite:** PLMB 1225 or department approval.

Prepares the student to take the hands on and written portions of the Journeyman Gasfitter's test in the state of New Mexico.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **PLMB 1305 - Trades Math**

**2 credit hour(s)**

**Pre- or corequisite:** PLMB 1105.

Includes basic arithmetic, whole numbers, fractions and decimals. Covers volumes, weight measurements and basic algebra as it applies to plumbing.

## **PLMB 1310 - Journeyman Preparation**

**3 credit hour(s)**

Introduces licensing requirements, rules and regulations and the Uniform Plumbing Code for persons interested in becoming journey level plumbers and natural gas fitters in New Mexico.

## **PLMB 1320 - Solar Thermal Systems**

**3 credit hour(s)**

**Pre- or corequisite:** PLMB 1230 or department approval.

Introduces Solar Thermal Systems including accessing, installing and evaluating fully operational solar water heating systems.

**Note(s):**

- 30 theory hours
- 45 lab hours

## **PLMB 1330 - Energy and Water Conservation Systems**

**3 credit hour(s)**

**Pre- or corequisite:** PLMB 1320 or department approval.

Introduces the newest energy-saving techniques for homes and commercial applications as they relate to the plumbing field. Including gray water, geo- thermal, energy design and application (LEED). Emphasis on energy-saving appliances and low water consumption fixtures.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PLMB 2096-2996 - Special Topics**

#### **1-7 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **PLMB 2997 - Independent Study**

#### **1-7 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

## **Plumbing Apprenticeship**

### **PLAP 1117 - Plumbing Apprenticeship**

#### **5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

### **PLAP 1127 - Plumbing Apprenticeship**

#### **5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

### **PLAP 1217 - Plumbing Apprenticeship**

#### **5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

### **PLAP 1227 - Plumbing Apprenticeship**

#### **5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

### **PLAP 1317 - Plumbing Apprenticeship**

#### **5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

### **PLAP 1327 - Plumbing Apprenticeship**

#### **5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

## **PLAP 1417 - Plumbing Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

## **PLAP 1427 - Plumbing Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

## **PLAP 1517 - Plumbing Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

## **PLAP 1527 - Plumbing Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the plumbing industry.

Provides 75-105 hours of classroom instruction, which includes safety, shop and trade math, plumbing processes, blueprint reading and mechanical code (plumbing) interpretation.

## **Political Science**

### **PSCI 1110 - The Political World**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** ENG 1101.\*

Introduces politics, emphasizing how people can understand their own political systems and those of others.

\* This course involves an intensive writing component.

#### **Note(s):**

- Students planning to transfer to the University of New Mexico's Political Science program should take PSCI 1110 first in their sequence of classes for articulation.

### **PSCI 2096-2996 - Special Topics**

**3 credit hour(s)**

Presents various topics.

#### **Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **PSCI 2200 - U.S. Politics**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** ENG 1102.\*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

\* This course involves an intensive writing component.

### **PSCI 2210 - State and Local Politics**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Analyze state and local politics, using New Mexico and other states as examples.

**Note(s):**

- Typically offered in Fall and Spring terms only.

**PSCI 2220 - Comparative Government and Politics**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** ENG 1102.\*

Compares the roles of public opinion, electoral systems, political parties, interest groups, governmental institutions and policy performance in European democracies, developing third-world nations and communist political systems.

\* This course involves an intensive writing component.

**Note(s):**

- Typically offered in Fall and Spring terms only.

**PSCI 2240 - International Politics**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** ENG 1102 + PSCI 1110 + PSCI 2200.\*

Examines political behavior between and among nations, including various significant factors in international politics: nationalism, ideology, deterrence, balance of power, international law, and international conflict and collaboration.

\* This course involves an intensive writing component.

**PSCI 2260 - Political Ideas**

**3 credit hour(s)**

**Pre- or corequisite:** PSCI 1110 + PSCI 2200.

**Recommended:** ENG 1102.\*

Surveys classical and contemporary political ideas and ideologies; introduces many of the enduring political issues, which are presented in descriptive, analytical and normative terms.

\*This course involves an intensive writing component.

**Note(s):**

- Typically offered Fall term only.

**PSCI 2270 - Introduction to Public Policy**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** ENG 1102 + PSCI 1110 + PSCI 2200.\*

This course will provide an overview of the U.S. political system as it is related to the formulation of public policy. The Introduction to public policy provides a basic vocabulary of concepts and approaches to understand processes of public policy making. Its main focus is the United States, but it will also address issues of (international) comparison. The course provides students with an intellectual framework for developing their own answers to questions about government intervention in our lives, public policies and alternatives, the making of policy, the role of systemic analysis of the policy making context in policy making, and the most effective roles for non-governmental organizations, markets and the state in the policymaking process.

\* This course involves an intensive writing component.

**PSCI 2280 - Introduction to Political Analysis**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** ENG 1102.\*

This course will introduce students to political science methodology and its logical usage for discovering causal patterns in political behavior and evaluating political reforms. Students will analyze of the logic of scientific research, gain experience in the development and interpretation of public opinion research and be introduced to related topics. No knowledge of statistics, computers or research methods is assumed.

\* This course involves an intensive writing component.

## **PSCI 2298 - Internship in Politics**

**1-3 credit hour(s)**

**Prerequisite:** PSCI 2200 or PSCI 2270.

This course will require students to work up to 135 hours in an internship placement in the state legislature, a national representative or senate office or another approved political environment. The internship will serve as a "real life" classroom for observing, analyzing and participating in the political process as well as provide practical experience in a political-science related workplace.

## **Polysomnography**

### **PSG 1010 - Introduction to EEG**

**3 credit hour(s)**

**Prerequisite:** AAS Mathematics Requirement + AAS Written Communication Requirement + BIO 2210 + IT 1010.

**Pre- or corequisite:** BIO 2310 + RT 1020 + RT 1060 + RT 1080.

Introduction to Electroencephalogram (EEG) theory and application. Emphasis on instrumentation, testing protocol and major disorders for which EEG is diagnostically useful. Includes hands on experience with the 10/20 International Electrode Application System.

#### **Note(s):**

- 30 theory hours
- 45 lab hours

### **PSG 1020 - Applied Neurologic Anatomy and Physiology**

**2 credit hour(s)**

**Prerequisite:** PSG 1010 + BIO 2310 + RT 1020 + RT 1060 + RT 1080.

**Pre- or corequisite:** BPCS 1092 + HIT 1020 + HLTH 1001 + PSG 1035 + PSG 1040.

Review of the central nervous system including structure and function of neurons, neuropathways, blood supply and neurotransmitters. Pharmacology as it relates to the central nervous system is covered as well as current topics in research.

### **PSG 1035 - Biomedical Electronics**

**3 credit hour(s)**

**Pre- or corequisite:** PSG 1020 + PSG 1040.

Electronic concepts, electrical connections, and patient safety. Review of basic principles of math and physics as applied to biomedical electronic technology and monitoring applications within the Neurodiagnostic Technology fields. Includes hands-on application as applicable.

#### **Note(s):**

- 30 theory hours
- 45 lab hours

### **PSG 1040 - Introduction to Sleep Disorder Medicine**

**3 credit hour(s)**

**Pre- or corequisite:** PSG 1020 + PSG 1035.

This course is designed to provide the basic functions of a sleep disorders specialist. Topics will include normal and abnormal sleep patterns, the study of sleep, the methodology and neurophysiology of sleep.

### **PSG 1535 - Sleep Disorders Principles and Practices**

**4 credit hour(s)**

**Prerequisite:** BPCS 1092 + HIT 1020 + HLTH 1001 + PSG 1020 + PSG 1035 + PSG 1040.

**Pre- or corequisite:** HLTH 1010 + PSG 1590 + (COMM 1130 or COMM 2221 or COMM 2225 or COMM 2232 or COMM 2270 or COMM 2280).

Topics will include recording sleep apnea. Equipment principles, set-up and operation associated activity related to normal and abnormal stages of sleep, placement and calibration of the EEG, EOG, EMG. Pulse oximetry and inductive polysomnography.

#### **Note(s):**

- 45 theory hours
- 45 lab hours

### **PSG 1590 - Polysomnography Clinical Experience I**

**3 credit hour(s)**

**Pre- or corequisite:** PSG 1535.

Students work in the clinical setting in a sleep laboratory or center. Emphasis will be on monitoring and working with polysomnography equipment and monitoring sleep study clients and equipment. Topics will include patient assessment and recording.

**Note(s):**

- 135 Clinical hours

### **PSG 2035 - Sleep Therapeutics**

**3 credit hour(s)**

**Prerequisite:** HLTH 1010 + PSG 1535 + PSG 1590 + (COMM 1130 or COMM 2221 or COMM 2225 or COMM 2232 or COMM 2270 or COMM 2280).

**Pre- or corequisite:** AAS Human Relations Requirement + PSG 2045 + PSG 2090.

Review of sleep therapies to include medical treatment of insomnia, hypersomnia, Restless Legs Syndrome, Periodic Limb Movement Disorder, Rapid Eye Movement Sleep Behavior Disorder, Parasomnias. The topics will include CPAP/BIPAP titration, artifact recognition and troubleshooting of sleep results and maintenance of equipment. Artifact recognition, obstructive sleep apnea, related breathing disorders, montages and protocols, scoring, MLST and MWT, as well as, lab management.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PSG 2045 - Record Scoring**

**3 credit hour(s)**

**Pre- or corequisite:** PSG 2035 + PSG 2090.

Presentation and discussion of practices related to interpretation of polysomnographs including visual, arousal, cardiac, movement, and respiratory scoring rules outlined by the American Academy of Sleep Medicine. Polysomnogram report generation and calculations, Technical and Digital Specifications, Multiple Sleep Latency Test/Maintenance of Wakefulness Test scoring and reporting, and Archive and Data Storage, Abnormal Polysomnographic Record events, and Artifact recognition.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **PSG 2090 - Polysomnography Clinical Experience II**

**3 credit hour(s)**

**Pre- or corequisite:** PSG 2035 + PSG 2045.

Clinical practice related to scoring and interpreting polysomnograms of adult and pediatric clients. Topics will include recording tests, CPAP/BIPAP and laboratory management.

**Note(s):**

- 135 Clinical hours

## **Portuguese**

### **PORT 1101 - Beginning Portuguese I**

**4 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

A multimedia course focusing on development of all four language skills using authentic Brazilian models of speech and behavior. Emphasis will be on listening, speaking and cultural understanding.

### **PORT 1102 - Beginning Portuguese II**

**4 credit hour(s)**

**Prerequisite:** PORT 1101 or department approval.

A multimedia course focusing on the continued development of all four language skills using authentic Brazilian models of speech and behavior. Emphasis will be on listening, speaking and cultural understanding.

**PORT 2096-2996 - Special Topics****1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Process Control

**PC 2001 - Electromechanical System Troubleshooting****4 credit hour(s)**

**Prerequisite:** ELEC 2001 or ELEC 2005 .

Uses electromechanical systems donated by local industries. Initially focuses on systematic analysis to locate problems. Apply troubleshooting techniques to a complete electronic system. Expose students to equipment schematics, maintenance procedures and practice preventive and corrective maintenance troubleshooting.

**Note(s):**

- 30 theory hours
- 90 lab hours

**PC 2005 - CIM Theory and Applications and Mobile Robot Design****3 credit hour(s)**

**Prerequisite:** ELEC 1005 + ELEC 1020 ).

Includes theory of computer integrated manufacturing (CIM), CIM systems used in industry and the programming and operation of such systems and micro-controllers.

**Note(s):**

- 30 theory hours
- 45 lab hours

**PC 2010 - Robot Theory and Construction Applications****3 credit hour(s)**

**Prerequisite:** ELEC 1005 + ELEC 1020 .

Includes theory, operation and maintenance procedures of industrial robots along with DC motors and motor drive circuitry and communications technology. Class will also complete a project (utilizing an industrial robot system) designed and constructed by students.

**Note(s):**

- 30 theory hours
- 45 lab hours

## Project Management

**PM 1096-1996 - Special Topics****1-3 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. See *Schedule of Classes*.

## **PM 1130 - Project Management Fundamentals**

**4 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

**Pre- or corequisite:** IT 1010.

Provides an introduction to the field of project management in theory and practice, addresses the role of project managers in the current world of rapid change, increased competitive forces and increased expectations for the successful delivery of projects in organizations and exposes the student to “hard” and “soft” techniques of project management.

## **PM 2095 - Cooperative Education**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for a structured educational paid work experience related to a student’s academic goals. Internship is a partnership between the student and both the educational institution and the employer with specified responsibilities for each party. Requires a minimum of 135 hours and must involve a new learning experience.

## **PM 2096-2996 - Special Topics**

**1-3 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. See *Schedule of Classes*.

## **PM 2097 - Independent Study**

**1-3 credit hour(s)**

**Prerequisite:** Department approval.

Student works with the instructor on specific topics directly related to the course or program of study. The meeting time is arranged between the student and the instructor.

## **PM 2098 - Internship**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Provides an opportunity for a structured educational unpaid work experience related to a student’s academic goals. Internship is a partnership between the student and both the educational institution and the employer with specified responsibilities for each party. Requires a minimum of 135 hours and must involve a new learning experience.

## **PM 2200 - Budget and Resource Management**

**3 credit hour(s)**

**Prerequisite:** IT 1010 + (PM 1130 or CM 1220).

Exposes the student to earned value method and resource allocation to establish a realistic project baseline. Strategies used to effectively monitor, measure and control cost and schedule are also addressed. Emphasis will be placed on applying effective methods for keeping the project budget and schedule on target, setting project standards and effective use of metrics to measure project success.

## **PM 2250 - Project Management Applications**

**3 credit hour(s)**

**Pre- or corequisite:** PM 2200.

This course applies the Project Management Body of Knowledge (PMBOK) to managing projects, schedules, labor, and resources. This body of knowledge aligns with the Certified Associate Project Manager (CAPM) certification, which is a nationally recognized documentation of the fundamental knowledge, terminology and processes of effective project management.

# **Psychology**

## **PSY 1105 - Introduction to Psychology**



**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduces psychology as a science: the study of behavior and mental processes. Topics surveyed include methodology, biological psychology, learning, memory, psychological disorders, psychotherapy, and social psychology.

**PSY 1150 - Drug Abuse and Treatment****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Provides a historical and psychosocial perspective on the use, abuse, and social control of psychoactive drugs. Included are overviews of the biopsychosocial nature of addiction; the impact of addiction on children, families and society; the physiological processes and impacts of psychoactive drugs on the person including risk factors related to addiction, acute and chronic health problems, communicable diseases, and fetal impacts; contemporary treatment and prevention approaches including synergistic risk factors, detoxification, and withdrawal; and the addiction counseling profession.

**PSY 2096-2996 - Special Topics****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**PSY 2200 - Statistical Principles****3 credit hour(s)**

**Prerequisite:** (MATH 1210 or MATH 1310 or Appropriate placement score) + PSY 1105 + any one of the following courses: PSY 2220 or PSY 2240 or PSY 2260 or PSY 2265 or PSY 2271 or PSY 2280.

Introduces basic statistics principles for the description and interpretation of psychological data: frequency distributions, graphing, measures of central tendency, variability, regression, correlation, hypothesis testing and analysis of variance.

**PSY 2220 - Developmental Psychology****3 credit hour(s)**

**Prerequisite:** PSY 1105.

Introduces the study of physical, social, emotional, and intellectual development across the life span. Emphasis is placed on research and applications.

**PSY 2231 - Human Sexuality****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Explores the physiological, individual, and social factors that influence sexual behavior, sex roles, and sexual identity.

**PSY 2232 - Clinical Psychology****3 credit hour(s)**

**Prerequisite:** PSY 1105.

Introduces the field of clinical psychology including a discussion of historical development, growth of the field, current training methods, ethics of practice, the nature of interviewing and assessment, various therapeutic techniques, and current areas of clinical practice.

**PSY 2233 - Psychology and Film****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Changing perceptions of mental illness are investigated by screening popular films and documentaries. Readings and lectures on psychiatric disorders are linked to films that offer students a unique opportunity to see realistic manifestations of "madness." An appreciation for the cinema's ability not only to reflect but also to affect our perceptions of abnormal behavior and treatment is stressed.

**PSY 2240 - Brain and Behavior**

### **3 credit hour(s)**

**Prerequisite:** PSY 1105 or BIO 1410 + BIO 1492.

Surveys the role of the nervous system in the control of behavior and mental processes. The focus of the course is on the biological basis of psychological events.

### **PSY 2250 - Introduction to Counseling in the Substance Abuse Field**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

This course develops understanding and basic competency in one-on-one counseling skills and group settings most relevant to addiction treatment with an emphasis on the principles of motivational counseling and client empowering approaches. There is a strong emphasis on understanding diversity and culture to support counseling techniques. Students will be required to complete field-based work in an approved setting.

### **PSY 2260 - Psychology of Learning and Memory**

#### **3 credit hour(s)**

**Prerequisite:** PSY 1105.

Provides an overview of how information is acquired, stored, and retrieved. Topics covered include some of the basic assumptions underlying research on learning and memory, distinctions between behavioral and cognitive approaches, principles of classical and operant conditioning, associative and cognitive processes of reinforcement, principles of memory processes including working memory and long-term memory, retrieval of information from memory, and the role of concepts in learning and memory.

### **PSY 2265 - Cognitive Psychology**

#### **3 credit hour(s)**

**Prerequisite:** PSY 1105.

Introduces the fundamental principles and concepts of cognitive psychology from a scientific perspective. Various theories, models, perspectives/approaches/traditions, and research findings related to mental processes and cognitive psychology will be presented and discussed. Topics surveyed will include: Attention & Consciousness, Perception, Concepts & Categories, Memory, Mental Imagery, Knowledge Representation, Problem Solving, Expertise, Creativity & Intelligence.

### **PSY 2271 - Social Psychology**

#### **3 credit hour(s)**

**Prerequisite:** PSY 1105.

Presents topics on the effects of interacting with others on a person's mental processes and behaviors. Topics covered include the perception of oneself and others, attitudes, working in groups, interpersonal attraction and relationships, helping behavior, and prejudice.

### **PSY 2280 - Health Psychology**

#### **3 credit hour(s)**

**Prerequisite:** PSY 1105.

Introduces health psychology, which studies how thought and behavior influence health including how stress contributes to illness and disease. Teaches methods to promote healthy changes and skills for coping with stress, pain, and chronic illness.

### **PSY 2289 - Death and Dying**

#### **3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduces the psychological, emotional and sociological aspects of death in American Culture. This course is designed to provide the student with a greater understanding of death and the dying process, including exposure from the consumer's perspective of the death industry.

## **Radiologic Technology**

### **RADT 1070 - Radiographic Positioning I**

#### **4 credit hour(s)**

**Prerequisite:** BPCS 1092 + BIO 2210 + ENG 1101 + HIT 1020 + HLTH 1040 + AAS Mathematics Requirement + department approval.

**Pre- or corequisite:** BIO 2310 + HLTH 1001.

**Corequisite:** RADT 1092 + RADT 2410.

Presents the fundamental of radiographic terminology, anatomy and positioning used in routine radiographic procedures of the chest, abdomen, extremities, ribs, pelvic girdle and shoulder girdle. Other relative topics will include clinical histories, patient care, lifting and moving patients, improvisation, radiographic requisitions and reports, image critique, basic equipment and portable radiography.

**Note(s):**

- 45 theory hours
- 45 lab hours

### **RADT 1092 - Patient Care for Radiography**

**1 credit hour(s)**

**Corequisite:** RADT 1070 + RADT 2410.

Review of basic patient care skills. Introduction of the specific patient care skills required for radiography to include history taking, immobilization techniques, medical emergencies, pharmacology, principles of drug administration, contrast media, and introduction to radiopharmaceuticals.

**Note(s):**45 lab hours

### **RADT 1096-1996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **RADT 1520 - Radiation Biology and Protection**

**2 credit hour(s)**

**Prerequisite:** RADT 2090 + RADT 2404 + Human Relations Requirement.

**Pre- or corequisite:** IT 1010.

**Corequisite:** RADT 2408 + RADT 2490.

Presents biological effects of radiation exposure to human cells and tissues including genetic, somatic, short- and long-term effects. Topics include radiation measurements, policies and protection measures for technologists, patients and others. Minimizing patient and personnel exposure, basic methods of protection, protective devices, units of measurement and sources of radiation exposure are covered.

### **RADT 1570 - Radiographic Positioning II**

**4 credit hour(s)**

**Prerequisite:** BIO 2310 + HLTH 1001 + RADT 1070 + RADT 1092 + RADT 2410.

**Corequisite:** RADT 1690 + RADT 2010.

Continues course of study begun in RADT including procedures, projections, anatomy, osteology and arthrology of the vertebral column, skull and facial bones, and sinuses. Other topics will include foreign body localization and image critique. Surveys the common procedures of the gastrointestinal, urinary, respiratory, biliary and cardiovascular systems utilized to study the factors that govern and influence the production and recording of radiologic images.

**Note(s):**

- 45 theory hours
- 45 lab hours

### **RADT 1690 - Clinical Experience I**

**5 credit hour(s)**

**Corequisite:** RADT 1570 + RADT 2010.

Introduces students to Radiologic Technology as a health science profession. Includes an introduction to the clinical setting, radiology and hospital organization, radiation protection and monitoring, ethical and legal issues of medical imaging, confidentiality, to include diversity and anti-discrimination issues in employment situations, professional organizations, professional development, accreditation and credentialing and computers in the workplace.

**Note(s):**

- 300 clinical intensive hours

### **RADT 2010 - Radiographic Imaging I**

**3 credit hour(s)**

**Corequisite:** RADT 1570 + RADT 1690.

Covers analog and digital imaging with related accessories. Employs radiographic image critique to emphasize the methods of diagnostic quality control.

**Note(s):**

- 30 theory hours
- 45 lab hours

### **RADT 2090 - Clinical Experience II**

**5 credit hour(s)**

**Prerequisite:** RADT 1570 + RADT 1690 + RADT 2010.

**Pre- or corequisite:** Human Relations Requirement.

**Corequisite:** RADT 2404.

A continued development of competencies under direct supervision and continuous practice of basic procedures learned in positioning I and II and Radiographic Imaging I. Independent and intermediate level of performance in selected procedures, image processing and image critiques. Assistance in a variety of patient care needs, safety issues, PACS and radiologic contrast studies.

**Note(s):**

- 300 clinical intensive hours

### **RADT 2096-2996 - Special Topics**

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **RADT 2404 - Radiographic Imaging II**

**3 credit hour(s)**

**Corequisite:** RADT 2090.

Surveys the special procedures and special imaging modalities (ultrasound, mammography, nuclear medicine, oncology and surgical radiography) utilized to explore topics in imaging equipment and image processing.

### **RADT 2408 - Radiographic Pathology and Cross-sectional Anatomy**

**3 credit hour(s)**

**Corequisite:** RADT 1520 + RADT 2490.

Surveys additional body systems and the relative pathologies affecting them. Radiographic imaging methods will be considered to demonstrate how to best demonstrate these pathologies.

### **RADT 2410 - Radiographic Physics and Instrumentation**

**3 credit hour(s)**

**Corequisite:** RADT 1070 + RADT 1092.

This course is a comprehensive review of the physical principles of diagnostic radiography.

**Note(s):**

- 30 theory
- 45 lab hours

### **RADT 2490 - Clinical Experience III**

**5 credit hour(s)**

**Corequisite:** RADT 1520 + RADT 2408.

Continues course of study with direct supervision, a continued development of competence and practice in basic positioning. Independent/intermediate level of performance in selected procedures, image processing and image critiques. Assists in a variety of patient care activities.

**Note(s):**

- 300 clinical intensive hours

### **RADT 2890 - Clinical Experience IV**

**6 credit hour(s)**

**Corequisite:** RADT 2999.

Continues course of study with instruction and practice in a clinical facility under direct supervision. Student will continue to develop competencies. Observation, involvement and assistance in special procedures and special imaging modalities. Review of radiographs, preparation for employment as radiologic technologists.

**Note(s):**

- 360 clinical intensive hours

### **RADT 2999 - Radiologic Technology Capstone**

**2 credit hour(s)**

**Prerequisite:** RADT 2408 + RADT 2490.

**Corequisite:** RADT 2890.

A capstone experience for students preparing for employment as radiologic technologists. Will consider topics in leadership, clinical management, professional development, quality assurance, quality control, professional organizations and preparation for the national registry exam as well as current developments in the field.

## **Rapid Prototyping**

### **RPID 1005 - 3 Dimensional CAD**

**3 credit hour(s)**

**Recommended:** CAD 1001.\*

This course is an introduction to the capabilities of 3D and solid modeling software.

\* It is recommended that students take CAD 1001 prior to taking RPID 1005, as familiarity with the principles of 2 dimensional computer aided drafting will be beneficial to students in this course.

**Note(s):**

- 30 theory hours
- 30 studio hours

### **RPID 1010 - Design and Simulation**

**3 credit hour(s)**

**Pre- or corequisite:** RPID 1005.

This course will continue the exploration of the design and simulation capabilities of 3D CAD and modeling software used to develop prototypes for component manufacturing.

**Note(s):**

- 15 theory hours
- 60 studio hours

### **RPID 1015 - Prototype Fabrication I**

**3 credit hour(s)**

**Pre- or corequisite:** RPID 1010.

Students will fabricate models and prototype components developed in RPID 1010.

**Note(s):**

- 15 theory hours

- 60 studio hours

## **RPID 1020 - Prototype Fabrication II**

**3 credit hour(s)**

**Pre- or corequisite:** RPID 1015.

Continued fabrication of prototype components and implementation of reverse engineering as part of the manufacturing process.

**Note(s):**

- 15 theory hours
- 90 studio hours

## **Religion**

### **RLGN 1103 - Intro to the Bible**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces students to the material and thematic content of the Hebrew and Christian Scriptures. Provides resources and reading skills for further study and investigation of the Biblical text and its influence upon the Judeo-Christian tradition in the West. This is an introductory course; no previous knowledge of the Bible is required.

### **RLGN 1105 - Religion and the Arts**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** ENG 1101.\*

Introduction to the relationship between religion and culture as reflected in the arts. Surveys the roles and functions of visual, performing, and literary arts and architecture in experiencing and expressing the social and doctrinal dimensions of several indigenous and major world religions.

\* This course requires writing critical essays utilizing multiple source materials.

### **RLGN 1107 - Living World Religions**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces the academic study of religion, focusing on major world religions: religions in antiquity, Hinduism, Buddhism, Confucianism, Daoism, Judaism, Christianity, Islam and religion in indigenous cultures.

### **RLGN 2096-2996 - Special Topics**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **RLGN 2240 - Ancient Religions**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Examines the religions of the ancient Middle East, Egypt, Greco-Roman, Germanic and Celtic worlds. Provides students with an understanding of the origins of modern religions and spirituality.

### **RLGN 2263 - Eastern Religions**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides an overview of the major religions of Asia, particularly the religions of India (Hinduism and Buddhism) Persia (Zoroastrianism), China (Confucianism and Taoism) and Japan (Shintoism and Zen Buddhism).

## **RLGN 2264 - Western Religions**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Provides an introduction and overview of the major Western Religions, specifically Zoroastrianism, Judaism, Christianity and Islam, focusing on history, belief systems, scripture and material expressions.

## **Respiratory Therapy**

### **RT 1020 - Physics of Respiratory Therapy**

**3 credit hour(s)**

**Corequisite:** RT 1060 + RT 1080.

Covers basic concepts of physics related to physiology of the lungs, gas laws, gas flow and mechanics of breathing. Concepts are applied to operation of respiratory therapy equipment.

### **RT 1030 - Pharmacology of Respiratory Therapy**

**3 credit hour(s)**

**Corequisite:** RT 1580 + RT 1560 + RT 1590 + RT 1593.

Presents concepts and principles of pharmacologic agents used in cardiopulmonary care. Includes study of biologic interactions, dosage calculations, side effects, indications of medication, therapeutic, diagnostic procedures and ethical and legal issues.

### **RT 1060 - Respiratory Therapy I**

**3 credit hour(s)**

**Corequisite:** RT 1020 + RT 1080.

Introduces respiratory therapy as a health sciences profession. Topics include cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy.

### **RT 1080 - Cardiopulmonary Pathophysiology I**

**1 credit hour(s)**

**Pre- or corequisite:** BIO 2310.

**Corequisite:** RT 1020 + RT 1060.

Presents pathophysiology and management of patients with pulmonary diseases including causes, signs and symptoms, pathophysiology, diagnosis, treatments and prognosis for patients with these problems. Specific topics include: basic concepts of COPD, preparing a case study, chest X-ray interpretation lung defense mechanisms, asthma, chest and lung malignancies, pneumonia, post-OP Complications and restrictive lung disease.

### **RT 1090 - Clinical Experiences I**

**4 credit hour(s)**

**Corequisite:** RT 1020 + RT 1060 + RT 1080 + RT 1092.

Provides supervised clinical experiences in area hospitals and health care facilities.

**Note(s):**

- 180 clinical hours

### **RT 1092 - Respiratory Therapy Lab I**

**1 credit hour(s)**

**Prerequisite:** BIO 2210 + ENG 1101 + IT 1010 + AAS Math Requirement + department approval.

**Pre- or corequisite:** BIO 2310 + HLTH 1001.

**Corequisite:** RT 1020 + RT 1060 + RT 1080 + RT 1090.

Students practice cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy using state of the art equipment in the learning laboratory under simulated patient situations.

**Note(s):**

- 45 Lab Hours

## **RT 1096-1996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **RT 1560 - Respiratory Therapy II**

**3 credit hour(s)**

**Prerequisite:** RT 1020 + RT 1060 + RT 1080 + RT 1090 + RT 1092.

**Corequisite:** RT 1030 + RT 1580 + RT 1590 + RT 1593.

Emphasizes airway management, pulmonary function testing, arterial puncture and blood gas analysis. Includes administering and home care therapy.

## **RT 1580 - Cardiopulmonary Pathophysiology II**

**1 credit hour(s)**

**Corequisite:** RT 1030 + RT 1560 + RT 1590 + RT 1593.

Presents pathophysiology and management of patients with pulmonary diseases, often from the perspective of a physician. Includes causes, signs and symptoms, pathophysiology, diagnosis, treatments, and prognosis for patients with diseases involving the cardio-pulmonary systems.

## **RT 1590 - Clinical Experiences II**

**4 credit hour(s)**

**Corequisite:** RT 1030 + RT 1560 + RT 1580 + RT 1593.

Continuation of RT 1090 provides supervised clinical experiences in area hospitals and health care facilities.

**Note(s):**

- 180 clinical hours

## **RT 1592 - Supplemental Skills Lab**

**1 credit hour(s)**

**Pre- or corequisite:** RT 1090.

Provides first-year Respiratory Therapy students the opportunity for additional learning and practice of respiratory therapy skills in the campus laboratory.

**Note(s):**

- 45 Lab Hours

## **RT 1593 - Respiratory Therapy Lab II**

**1 credit hour(s)**

**Corequisite:** RT 1030 + RT 1560 + RT 1580 + RT 1590.

Students practice airway management, pulmonary function testing, arterial puncture and blood gas analysis and administering home care therapy procedures using state of the art equipment in the learning laboratory under simulated patient situations.

**Note(s):**

- 45 lab hours

## **RT 2060 - Advanced Respiratory Therapy I**

**3 credit hour(s)**

**Prerequisite:** RT 1030 + RT 1560 + RT 1580 + RT 1590 + RT 1593.

**Corequisite:** RT 2080 + RT 2090 + RT 2093.

Presents basic concepts of adult care medicine including adult intensive care and pathophysiology of diseases, introduction to concepts of positive pressure ventilation and advanced airway care. Introduction to positive pressure mechanical ventilation equipment and procedures related to basic critical care medicine for adults using state of the art equipment and computer simulations in the learning laboratory.



## **RT 2080 - Cardiopulmonary Pathophysiology III**

**2 credit hour(s)**

**Corequisite:** RT 2060 + RT 2090 + RT 2093.

Presents pathophysiology and management of patients with pulmonary diseases from the perspective of a physician including causes, signs and symptoms, pathophysiology, diagnosis, treatments and prognosis for patients with these problems: chest trauma, ACLS, pneumothorax, pulmonary vascular disease, Cor Pulmonale, sepsis syndrome, EKG interpretation. Management of patients on mechanical ventilation regardless of diagnosis is also covered.

## **RT 2090 - Advanced Clinical Experiences I**

**4 credit hour(s)**

**Corequisite:** RT 2060 + RT 2080 + RT 2093.

Introduces skills for basic respiratory care in adult care settings with emphasis on problem solving and decision-making skills, patient evaluation skills and the evaluation of therapeutic care plans and initiating life support systems.

**Note(s):**

- 240 clinical hours

## **RT 2092 - Advanced Supplemental Skills Lab**

**1 credit hour(s)**

**Pre- or corequisite:** RT 2090.

Provides second-year Respiratory Therapy students the opportunity for additional learning and practice of respiratory therapy skills in the campus laboratory.

**Note(s):**

- 45 Lab Hours

## **RT 2093 - Advanced Respiratory Therapy Lab I**

**1 credit hour(s)**

**Corequisite:** RT 2060 + RT 2080 + RT 2090.

Introduction to positive pressure mechanical ventilation equipment and procedures related to basic critical care medicine for adults using state of the art equipment and computer simulations in the learning laboratory.

**Note(s):**

- 45 lab hours

## **RT 2096-2996 - Special Topics**

**3-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## **RT 2097 - Independent Study**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Provides opportunity for independent study in respiratory care such as preparation for licensing/credentialing exams.

## **RT 2098 - Internship**

**3-6 credit hour(s)**

**Prerequisite:** Department approval.

Allows graduates of the AS RT program to continue learning experiences in conjunction with the UNM Health Sciences Center, Graduates will participate in nationally funded research projects that explore diagnosis, treatment, education and research.

## **RT 2460 - Advanced Respiratory Therapy II**

**3 credit hour(s)**

**Prerequisite:** RT 2060 + RT 2080 + RT 2090 + RT 2093.

**Pre- or corequisite:** Human Relations Requirement.

**Corequisite:** RT 2480 + RT 2490 + RT 2492.

Presents cardiopulmonary assessment and diagnosis in advanced adult critical care including correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiopulmonary function. Presents concepts of rehabilitative practice for patients with chronic cardiopulmonary diseases. Introduces strategies for successful completion of national board exams. Presents mechanical ventilation procedures related to critical care medicine for children and infants using state of the art equipment and computer simulation in the learning laboratory.

## **RT 2480 - Cardiopulmonary Pathophysiology IV**

**2 credit hour(s)**

**Corequisite:** RT 2460 + RT 2490 + RT 2492.

Presents pathophysiology and management of patients with pulmonary diseases from the perspective of a physician including causes, signs and symptoms, pathophysiology, diagnosis, treatments and prognosis for patients with these problems. Specific topics include infant and pediatric cardiac and respiratory disorders, cystic fibrosis, congestive heart failure, neuromuscular disease, traumatic injuries, burns, respiratory failure and adult/acute respiratory distress syndrome.

## **RT 2490 - Advanced Clinical Experiences II**

**4 credit hour(s)**

**Corequisite:** RT 2460 + RT 2480 + RT 2492.

Introduces skills for advanced respiratory care in adult critical care clinical settings with emphasis on problem-solving and decision-making skills. Experiences include cardiopulmonary function monitoring and maintaining life support systems.

**Note(s):**

- 240 clinical intensive hours

## **RT 2492 - Advanced Respiratory Therapy Lab II**

**1 credit hour(s)**

**Corequisite:** RT 2460 + RT 2480 + RT 2490.

Presents mechanical ventilation procedures related to critical care medicine for adults, children and infants using state of the art equipment and computer simulation in the learning laboratory. Students will focus on cardiopulmonary assessment and diagnosis with correlation of cardiopulmonary anatomy, physiology and pathophysiology and evaluation of cardiopulmonary function.

**Note(s):**

- 45 Lab Hours

# **Service Learning**

## **SERV 1190 - Service Learning**

**1 credit hour(s)**

Students have the opportunity to earn college credit through a structured service-learning experience. This course combines community service and classroom instruction with a focus on critical, reflective thinking as well as personal and civic responsibility. Students complete a minimum of 20 hours of service learning in a non-profit, school or government agency.

**Note(s):**

- To enroll in a particular section of this course, students must be enrolled in the anchor course that corresponds to that section.

# **Sheet Metal Apprenticeship**

## **SMAP 1115 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading, and Sheet Metal and Air Conditioning National Association (SMACNA)

manuals.

### **SMAP 1125 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading, and Sheet Metal and Air Conditioning National Association (SMACNA) manuals.

### **SMAP 1215 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading, and Sheet Metal and Air Conditioning National Assn. (SMACNA) manuals.

### **SMAP 1225 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading, and Sheet Metal and Air Conditioning National Association (SMACNA) manuals.

### **SMAP 1315 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading, and Sheet Metal and Air Conditioning National Association (SMACNA) manuals.

### **SMAP 1325 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading, and Sheet Metal and Air Conditioning National Association (SMACNA) manuals.

### **SMAP 1415 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading and Sheet Metal and Air Conditioning National Association (SMACNA) manuals.

### **SMAP 1425 - Sheet Metal Apprenticeship**

**5-7 credit hour(s)**

**Prerequisite:** Current full-time employment in the sheet metal industry or department approval.

Provides 75-105 hours of related classroom instruction. Instruction covers safety, trade math, sheet metal processes, triangulation layout, radial line layout, parallel line layout, blueprint reading and Sheet Metal and Air Conditioning National Association (SMACNA) manuals.

## **SkillsUSA/VICA**

### **VICA 2174 - Professional Development**

**1 credit hour(s)**

Emphasizes development of goals and commitments, personal awareness, time management, organization and communication.

**VICA 2175 - Leadership****1 credit hour(s)**

Reviews committee work including agenda setting, parliamentary procedures, team building; participation in community service projects and improvement of communication skills.

**VICA 2176 - Career Planning****1 credit hour(s)**

Introduces career information, report writing, conducting interviews, employment skills, communication improvement and interaction with business and industry.

**VICA 2178 - Civic Responsibility****1 credit hour(s)**

Covers various community services in planning and carrying out a community project.

## Sociology

**SOC 1101 - Introduction to Sociology****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

**SOC 2096-2996 - Special Topics****3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

**SOC 2205 - Crime Public Policy and the Criminal Justice System****3 credit hour(s)**

**Prerequisite:** SOC 1101.

Discusses key criminological concepts, the measurement of crime and delinquency, the distribution of crime in society, victimization, public opinion, the criminal justice system, crime control strategies and policies.

**SOC 2211 - Social Problems****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** SOC 1101.\*

Analyzes a range of social problems in contemporary U.S. society: racism and prejudice, crime and delinquency, mental disorders, family changes, poverty and substance abuse.

\* Successful completion of SOC 1101 before taking 2000 level courses in Sociology is strongly advised.

**SOC 2212 - Juvenile Delinquency****3 credit hour(s)**

**Prerequisite:** SOC 1101.

Emphasizes theories of juvenile delinquency, child abuse, the juvenile justice system, probation, treatment and corrections for juveniles.

**SOC 2213 - Deviant Behavior**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** SOC 1101.\*

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

\* Successful completion of SOC 1101 before taking 2000 level courses in Sociology is strongly advised.

**SOC 2215 - Criminology****3 credit hour(s)**

**Prerequisite:** SOC 1101.

Examines causes of crime based on sociological factors, the various faces of crime, the criminal past and present and criminology theory.

**SOC 2216 - Ethnic and Minority Groups****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** SOC 1101.\*

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

\* Successful completion of SOC 1101 before taking 2000 level courses in Sociology is strongly advised.

**SOC 2221 - Global Issues****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** SOC 1101.\*

Examines the global context of patterns of development and the consequences of globalization. Topics include global conflict, the rise of global capitalism, the impact of globalization on government, and inequality.

\* Successful completion of SOC 1101 before taking 2000 level courses in Sociology is strongly advised.

**SOC 2225 - Sociology of Family****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Presents major theories of the family and the status of the modern family in an era of varied family forms.

**SOC 2230 - Society and Personality****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** SOC 1101 or PSY 1105.\*

Introduces topics in social psychology, such as personality theories, concepts of self, human relationships, small group dynamics and organizational theories.

\* Successful completion of SOC 1101 or PSY 1105 before taking this course is strongly advised.

**SOC 2235 - Sociology of Gender****3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

**Recommended:** SOC 1101 or PSY 1105.\*

Focuses on the nature and content of gender in the U.S.: theoretical viewpoints from the social sciences applied to issues of socialization, family, culture, media, education, work, politics and economics. Discusses the impact of gender differentiation on personality development and social interaction.

\* Successful completion of SOC 1101 or PSY 1105 before taking this course is strongly advised.

**SOC 2250 - Social Problems Facing Children**

**3 credit hour(s)****Prerequisite:** SOC 1101.

Students will explore how the social problems of poverty, various forms of disadvantage, divorce, and child abuse impact children. Students will then assess the systems (or lack thereof) currently in place for dealing with these problems.

**SOC 2280 - Social Science Research****3 credit hour(s)****Prerequisite:** SOC 1101.

Introduces decision making processes and tools involved in social science research, including surveys, field research, experiments and use of existing sources.

**SOC 2999 - Sociology Capstone****3 credit hour(s)****Prerequisite:** SOC 1101 + any 2000 level SOC course.

Students will reflect back over their experiences at CNM and use sociological perspectives to make connections across disparate courses. Students will consider what they intend to do with their degree-visualizing how they plan to use their sociological coursework to accomplish their transfer or workforce goals. Students will engage in pre-research activities that will prepare them for upper division sociology course work.

## Spanish

**SPAN 1101 - Beginning Spanish****4 credit hour(s)****Pre- or corequisite:** IRW 0980 or appropriate placement score.

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

**SPAN 1102 - Beginning Spanish II****4 credit hour(s)****Prerequisite:** SPAN 1101 or appropriate placement score.

Continues course of study begun in SPAN 1101: listening, speaking, grammatical skills. Includes an online workbook and lab manual.

**SPAN 1103 - Beginning Spanish I Conversation****3 credit hour(s)****Pre- or corequisite:** SPAN 1102 or department approval.

Introduces basic conversational skills and practice speaking Spanish.

**SPAN 1104 - Spanish for Medical Professionals****3 credit hour(s)****Prerequisite:** SPAN 1101 or appropriate placement score.

Presents practical situations where Spanish is frequently encountered in healthcare settings. Includes vocabulary relating to medical history taking, human anatomy, diagnostic tests, procedures, and treatment plans. Includes regional lay terminology for human anatomy, signs, symptoms, and medical conditions.

**SPAN 1111 - Heritage Spanish Language****4 credit hour(s)****Pre- or corequisite:** IRW 0980 or appropriate placement score.

Designed for students who have been exposed to Spanish in the home and community environments, consider Spanish their heritage language and wish to expand their skills. Emphasizes speaking, reading and grammatical concepts.

**SPAN 1112 - Heritage Spanish Language II****4 credit hour(s)****Prerequisite:** SPAN 1101 or SPAN 1111.

Continues skills acquisition begun in SPAN 1111. Emphasizes reading and writing with extension of study of grammatical concepts.

### **SPAN 2096-2996 - Special Topics**

**3 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **SPAN 2201 - Intermediate Spanish I**

**3 credit hour(s)**

**Prerequisite:** SPAN 1102 or appropriate placement score.

Continues course of study begun in SPAN 1101 and SPAN 1102.

Emphasizes expansion of conversational, reading and writing skills. Includes an online workbook and lab manual.

### **SPAN 2202 - Intermediate Spanish II**

**3 credit hour(s)**

**Prerequisite:** SPAN 2201 or appropriate placement score.

Reviews grammar with an emphasis on writing skills. Provides conversational activities to increase fluency.

### **SPAN 2203 - Intermediate Spanish II Conversation**

**3 credit hour(s)**

**Pre- or corequisite:** SPAN 2202 or department approval.

Emphasizes skills in speaking Spanish.

### **SPAN 2204 - Spanish Language in Film**

**1 credit hour(s)**

**Pre- or corequisite:** SPAN 2202 or SPAN 2376.

Explores themes relevant to Spanish-speaking societies through the viewing and analysis of critically acclaimed films and documentaries. Such themes include cultural and/or religious conflict, rural vs. urban and migration issues, changing gender and social roles, marginalized peoples, and globalization.

### **SPAN 2277 - The Art and Skill of Translation**

**3 credit hour(s)**

**Prerequisite:** SPAN 2202 or department approval.

Introduces the art and profession of translation with a focus on practical translation problems in Spanish. Studies texts from the area of journalism, law, business and literature for translation from Spanish to English and from English to Spanish.

**Note(s):**

- Class conducted in Spanish.

### **SPAN 2280 - Introduction to Hispanic Literature**

**3 credit hour(s)**

**Prerequisite:** SPAN 2202 or SPAN 2376 or department approval.

Presents selected readings from literature written in Spanish by Spanish and Spanish-American authors.

### **SPAN 2375 - Accelerated Beginning Spanish**

**6 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score.

Combines SPAN 1101 and SPAN 1102 in one term. Recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous study.

### **SPAN 2376 - Accelerated Intermediate Spanish**

**6 credit hour(s)**

**Prerequisite:** SPAN 1102 or SPAN 2375 or department approval.

Combines SPAN 2201 and SPAN 2202 in one term. Recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous study.

## Special Education

### SPED 2096-2996 - Special Topics

**1-6 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### SPED 2201 - Introduction to Special Education

**3 credit hour(s)**

**Prerequisite:** IRW 0980 or appropriate placement score.

Examines the historical and legal basis for special education services for students with disabilities. Course competencies are built upon national, state, and professional standards and include understandings of 1) the exceptionality categories included in the Individuals with Disabilities Education Act (IDEA, 2004) and NM State Law; 2) the responsibilities of educators and school systems to students with disabilities, including the role of professional ethics; and 3) the importance of and strategies for collaborating with families and other professionals.

### SPED 2233 - Twice Exceptional Special Populations of Gifted Learners

**3 credit hour(s)**

**Prerequisite:** EDUC 2230.

Focuses on special populations of gifted learners possessing unique characteristics and needs. Explores the characteristics, identification, and development of appropriate educational services for twice exceptional and special populations of gifted learners. Designed for those students currently working in education.

### SPED 2250 - Foundations of Special Education

**3 credit hour(s)**

**Prerequisite:** Acceptance into the alternative licensure program.

Examines the historical and legal basis for special education services for students with disabilities. Course competencies are built upon national, state, and professional standards and include understandings of 1) the exceptionality categories included in the Individuals with Disabilities Education Act (IDEA, 2004) and NM State Law; 2) the responsibilities of educators and school systems to students with disabilities, including the role of professional ethics; and 3) the importance of and strategies for collaborating with families and other professionals. Students participate in a 25-hour school-based practicum.

### SPED 2256 - Evaluation/Individual Education Plan and Documentation in Special Education

**3 credit hour(s)**

**Pre- or corequisite:** SPED 2250.

Promotes an understanding of the screening, evaluation, eligibility and re-evaluation process of special needs students. Topics covered include standardization, administration and interpretation of criterion referenced, curriculum-based, authentic and informal assessments, observation and checklist/rating scale. Special emphasis is placed on instructional decision making, IEP documentation and record keeping and implementation. Field experience is required as part of this course.

### SPED 2258 - Classroom and Behavior Management for Students with Special Needs

**3 credit hour(s)**

**Pre- or corequisite:** SPED 2250.

Examines positive behavior supports and environmental management of behavior. Course competencies are built upon national, state, and professional standards and focus on the 1) basic procedures for organizing and managing a classroom and 2) identifying and implementing individualized behavioral techniques used to foster successful student behavior in the classroom and school setting, including data collection, functional behavior assessment, and developing effective behavior intervention plans. Requires field experience as part of the course.



## **SPED 2260 - Methods and Materials for Special Education**

**3 credit hour(s)**

**Prerequisite:** EDUC 2285.

Examines appropriate teaching strategies and materials in instructional design and delivery, including classroom-based assessment and data collection for students receiving special education services. Course competencies are built upon national, state, and professional standards and focus on 1) clearly identifying student learning goals, 2) developing formative assessments for learning, 3) engaging students in their own learning, and 4) differentiating for individual and diverse student needs including designing instruction based on student strengths, integrating opportunities for address IEP goals within content area lessons developed using grade-level standards, and developing evaluation tools for reporting student progress as related to specific learning goals.

## **SPED 2272 - Reading for Special Learners**

**3 credit hour(s)**

**Prerequisite:** EDUC 2260.

Provides an understanding of concepts and procedures for teaching reading to students with special needs. Emphasis will be placed on formal and informal reading assessment, effective reading practices, research-based reading programs, oral language development, writing development and effective strategies, decoding strategies, and vocabulary acquisition. Field experience is required as part of this course.

## **SPED 2290 - Introduction to Special Education Practicum**

**2 credit hour(s)**

**Prerequisite:** IRW 0980.

**Corequisite:** SPED 2201.

Applies understandings of the education of students with disabilities to field experiences in special education settings. Course competencies are built upon national, state, and professional standards and focus on the 1) instructional implications of educational disabilities, 2) best classroom practices for teaching students with disabilities, and 3) professionalism skills for working with students with disabilities including advocacy and collaboration with families and other professionals. Students must pass a background check to successfully complete the course requirements.

### **Note(s):**

- 15 theory hours
- 45 lab hours

## **SPED 2390 - Special Education Supervised Field Experience**

**3 credit hour(s)**

**Prerequisite:** Department approval.

Applies learning theory and practices from all previous coursework in an advanced supervised fieldwork experience. Course competencies are built upon national and state standards and focus on planning, developing and implementing curriculum for diverse learners. Students are required to meet competencies as defined by the NM Public Education Department through a minimum of 180 contact hours in an approved special education setting.

### **Note(s):**

- Enrollment in this course requires an applications process.
- 180 contact hours

## **Sportscraft/Small Engine**

### **SCSE 1070 - Small Engine Skills Improvement I**

**3 credit hour(s)**

Covers the diagnosis and repair of small air-cooled engines, safety, engine identification, special tools, ignition, cooling, lubrication, engine rebuilding and fuel systems.

### **Note(s):**

- 15 theory hours
- 75 lab hours

### **SCSE 1075 - Small Engine Skills Improvement II**

**3 credit hour(s)**

Presents safe practices in the diagnosis and repair of power equipment, chain saw service and chain sharpening, blower and line trimmer service.

**Note(s):**

- 15 theory hours
- 75 lab hours

## Sterile Processing Technician

### SPT 1010 - Basics of Sterile Processing

**2 credit hour(s)**

**Prerequisite:** IRW 0970 or appropriate placement score.

**Corequisite:** SPT 1092.

Course provides instruction on Sterile Processing Technician roles and responsibilities, anatomy & physiology, microbiology, infection control, decontamination, medical terminology, sterilization, sterile storage, preparation packaging & instrumentation, and inventory control.

### SPT 1092 - Sterile Processing Lab

**2 credit hour(s)**

**Corequisite:** SPT 1010.

Provides opportunity to practice skills and competencies developed in the classroom. Includes processing, maintaining, and dispensing instruments, supplies, and equipment in an operating room or central supply department.

**Note(s):**

- 90 lab hours

### SPT 1110 - Flexible Endoscope Reprocessing

**2 credit hour(s)**

**Prerequisite:** SPT 1010 + (SPT 1092 or ST 2090).

This course is designed for healthcare workers with sterile processing experience who want to prepare for the Certification Board for Sterile Processing & Distribution's (CBSPD) Flexible Endoscope Reprocessor certification examination. This course presents the knowledge and skills needed to perform reprocessing of flexible GI endoscopes and/or bronchoscopes.

**Note(s):**

- 15 theory hours
- 45 lab hours

## Surgical Technology

### ST 1001 - Introduction to Surgical Technology

**2 credit hour(s)**

**Prerequisite:** ENG 1101 + MATH 0970.

This course is designed to give the student a broad overview of the responsibilities of the Surgical Technologist and the operating room environment. This will prepare the student for entrance into the Surgical Technology program.

### ST 1010 - Beginning Surgical Technology I

**3 credit hour(s)**

**Prerequisite:** BIO 2210 + BIO 2292 + BIO 2310 + BIO 2392 + ENG 1101 + HIT 1020 + ST 1001 + (BPCS 1092 or [NA 1020 + NA 1190 + NA 1093]) + COMM 2221 + AAS Math Requirement).

**Pre- or corequisite:** HLTH 1001 + IT 1010.

**Corequisite:** ST 1092.

Includes scope of practice, technologist role, medical ethics and medical terminology, basic principles of aseptic technique and anatomy and physiology applied to surgical procedures.

**Note(s):**

- Requires a grade of B or higher in ST 1001

## **ST 1092 - Surgical Technology Lab I**

**6 credit hour(s)**

**Corequisite:** ST 1010.

Provides opportunity to practice clinical skills and competencies developed in the classroom. Includes surgical technique (setting up the sterile field, scrubbing, gowning and gloving) and standards of practice. Infection prevention and control will be covered plus care of the surgical patient.

**Note(s):**

- 270 lab hours

## **ST 1510 - Beginning Surgical Technology II**

**3 credit hour(s)**

**Prerequisite:** ST 1010 + ST 1092 + IT 1010.

**Corequisite:** ST 1590 + ST 1592.

Continues Surgical Technology Theory with a focus on an introduction to surgical procedures with a brief history, relevant anatomy and special considerations for general surgery, obstetrics and gynecological procedures, ophthalmic surgery, otorhinolaryngologic surgery, oral and maxillofacial surgery and plastic and reconstructive surgery.

## **ST 1590 - Surgical Technology Clinical I**

**8 credit hour(s)**

**Prerequisite:** ST 1092.

**Corequisite:** ST 1510 + ST 1592.

Applies surgical procedure theory and skills in the clinical setting.

**Note(s):**

- 360 clinical hours

## **ST 1592 - Surgical Technology Lab II**

**2 credit hour(s)**

**Prerequisite:** ST 1092.

**Corequisite:** ST 1510 + ST 1590.

Continue to provide an opportunity to practice clinical skills and put into practice the special considerations for general surgery, obstetrics and gynecological procedures, ophthalmic surgery, otorhinolaryngologic surgery, oral and maxillofacial surgery and plastic and reconstructive surgery.

**Note(s):**

- 90 lab hours

## **ST 2010 - Surgical Technology III**

**3 credit hour(s)**

**Prerequisite:** ST 1592.

**Corequisite:** ST 2090 + ST 2092.

Continues Surgical Technology Theory with a focus on an introduction to surgical procedures with a brief history, relevant anatomy and special consideration for genitourinary procedures and surgery, orthopedic surgery, cardiothoracic surgery, peripheral vascular surgery and neurosurgery.

## **ST 2090 - Surgical Technology Clinical II**

**8 credit hour(s)**

**Corequisite:** ST 2010 + ST 2092.

Continues to apply surgical procedure theory and skills in the clinical setting with additional opportunities to include specialty areas such as labor and delivery and GI experience.

**Note(s):**

- 360 clinical hours

## **ST 2092 - Surgical Technology Lab III**

**2 credit hour(s)****Corequisite:** ST 2010 + ST 2090.

Continue to provide an opportunity to practice clinical skills and put into practice the special considerations for genitourinary procedures and surgery, orthopedic surgery, cardiothoracic surgery, peripheral vascular surgery and neurosurgery.

**Note(s):**

- 90 lab hours

**ST 2096-2996 - Special Topics****1-6 credit hour(s)****Prerequisite:** ST 1010 + ST 1092.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Surveying

**SUR 1001 - Introduction to Surveying Engineering****1 credit hour(s)**

Introduces the field of surveying and explores potential career paths.

**SUR 1002 - Math for Surveying and Mapping****1 credit hour(s)****Corequisite:** CM 2205.

Covers basic concepts of problem solving, mathematics and trigonometry with an emphasis on land survey and engineering applications and calculator use. Students must provide a full-function scientific calculator with a ten-digit display.

**SUR 1015 - Boundary Survey Concepts****3 credit hour(s)****Pre- or corequisite:** CM 2205.

Detailed study of the U.S. Public Land Survey System Instructions with special emphasis on New Mexico. Sectionalized land subdivision, corner restoration and field survey.

**SUR 2001 - Intermediate Field Procedures****3 credit hour(s)****Prerequisite:** CM 2205 + GIS 1005.

Introduces intermediate surveying techniques using total stations, data collectors and survey grade GPS equipment. Topics include boundary, topographic and as-built surveys.

**Note(s):**

- 30 theory hours
- 45 lab hours

**SUR 2002 - Intermediate Surveying Topics****3 credit hour(s)****Prerequisite:** CM 2205 + GIS 1005.

Explores intermediate surveying calculations, mapping, platting and property boundary issues.

**SUR 2096-2996 - Special Topics****1-7 credit hour(s)**

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Survey of Applied Technologies

### AT 1005 - Survey of Applied Technologies

#### 3 credit hour(s)

In this course students will participate in an overview of career opportunities available to students in the programs of study offered by the School of Applied Technologies. Students will uncover the real life aspects of these careers, including information on salaries, workload and job satisfaction. Students will map the path from a career aspiration to the actions and timelines that will make that career possible.

### AT 1010 - Applied Technologies in Construction

#### 3 credit hour(s)

Students will further explore the career and educational opportunities in the Construction Industry cluster encountered in AT 1005 – Survey of Applied Technologies. Hands on activities in Carpentry, Electrical, HVAC, and Plumbing will be highlighted.

### AT 1020 - Applied Technologies in Design

#### 3 credit hour(s)

Students will further explore the career and educational opportunities in the Design Technologies Industry cluster encountered in AT 1005 – Survey of Applied Technologies. Hands on activities in Architectural Engineering, Film Crewing, Geographic Information & Land Surveying will be highlighted.

### AT 1030 - Applied Technologies in Manufacturing

#### 3 credit hour(s)

Students will further explore the career and educational opportunities in the Manufacturing Industry cluster encountered in AT 1005 – Survey of Applied Technologies. Hands on activities in Advance Systems (Robotics/Lasers), Additive/subtractive manufacturing and Welding applications will be highlighted.

### AT 1040 - Applied Technologies in Transportation

#### 3 credit hour(s)

Students will further explore the career and educational opportunities in the Transportation Industry cluster encountered in AT 1005 – Survey of Applied Technologies. Hands on activities in Aircraft repair, Automobile & Heavy Equipment repair and operations will be highlighted.

### AT 1096 - 1996 - Special Topics

#### 1 - 9 credit hour(s)

**Prerequisite:** Department approval.

Presents various topics.

#### Note(s):

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## Survey of Business & Information Technology

### BIT 1005 - Survey of Business & Information Technology

#### 3 credit hour(s)

This course will introduce the students to the programs in the School of Business & Information Technology. Students will explore related careers through research, guest speakers and hands-on experiences in laboratory settings. Strategies to enhance college success will be explored, and critical thinking will be emphasized throughout the course.

## Survey of Health, Wellness, & Public Safety

### HWPS 1005 - Survey of Health, Wellness and Public Safety

#### 3 credit hour(s)

This course will introduce the students to the programs in the School of Health, Wellness & Public Safety. Students will explore related careers through research, guest speakers and hands-on experiences in laboratory settings. Strategies to enhance college success will

be explored and critical thinking will be emphasized throughout the course.

## Sustainability

### **SUST 1134 - Introduction to Sustainability: Environment, Society, and Economy**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

This course broadly introduces topics, issues, and developments within the “3 E’s” of Sustainability (Environmental health, social Equity, Economic vitality). The instructor and visiting lecturers will present on issues such as renewable energy technologies, climate change, water use, food production, “green” architecture, socially responsible business, carbon footprints, microlending, ecotourism, and recycling, among others. The course will focus on one question: how do we create a sustainable future that supports environmental health, social equity, and economic vitality? Students will examine both contemporary challenges to sustainable development and examples of successful sustainability initiatives on local, national, and global levels.

## Teaching and Learning Online

### **TLOL 1010 - Introduction to Teaching and Learning Online**

**2 credit hour(s)**

**Prerequisite:** Department approval.

Intended for higher education faculty or public school teachers interested in teaching online, this course provides for a basic introduction to online teaching and learning, with a focus on developing the knowledge and skills for effectively engaging students utilizing tools in the Blackboard web-based learning management system.

### **TLOL 1015 - Online Curriculum Design and Instruction**

**3 credit hour(s)**

**Prerequisite:** TLOL 1010 or department approval.

Intended for higher education faculty or public school teachers interested in teaching online, this course applies best practices in designing an online courses, with a focus on developing course content, learning activities, and assessments that achieve instructional objectives.

### **TLOL 1020 - Assessing the Online Learner**

**2 credit hour(s)**

**Prerequisite:** TLOL 1015.

Intended for higher education faculty or public school teachers interested in implementing enhanced techniques for assessing online learners and evaluation in online courses. With a focus on formative, summative, authentic, creative and learner focus assessments, in addition to the alignment of assessment with design.

### **TLOL 1025 - Instructional Resources for Teaching Online**

**1 credit hour(s)**

**Prerequisite:** TLOL 1015.

Intended for higher education faculty or public school teachers using online instructional resources. The course will focus on locating, evaluating, implementing and properly citing online resources in accordance with copyright and fair use regulations. The course will emphasize best practices for online teaching and learning.

### **TLOL 1030 - Communication and Engagement in Online Learning**

**2 credit hour(s)**

**Prerequisite:** TLOL 1015.

Intended for higher education faculty or public school teachers interested in developing an engaging online learning community. The course will focus on student-to-student and student-to instructor interaction by examining online tools that allow for synchronous and asynchronous communication.

### **TLOL 1035 - Universal Design – Elements of Accessibility**

**1 credit hour(s)**

**Prerequisite:** TLOL 1015.

Intended for higher education faculty or public school teachers interested in creating an inclusive environment in the online classroom. This course will focus on evaluating and implementing universal design principles and the elements of accessibility within online courses.

## Theatre

### THEA 1119 - Introduction to Technical Theatre

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Introduces students to hands-on training in areas of technical play production, including stagecraft (set and property construction, painting, and sound).

### THEA 1120 - Beginning Acting

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

**Recommended:** THEA 1122.\*

Provides students with the fundamental physical, vocal and imaginative skills for acting and performing.

\* Students are expected to have a basic understanding of theatre history and practice.

### THEA 1121 - Beginning Acting II

**3 credit hour(s)**

**Prerequisite:** THEA 1120.

Continues the study begun in THEA 1120 with emphasis on exploration of the text as the source for theatrical decisions and the effects of those decisions in performance.

### THEA 1122 - Theatre Appreciation

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0980 or appropriate placement score or CSE 1101.

Students examine the nature of theatre art, exploring the aesthetic and practical dimensions of a theatrical production's unified work to appreciate all of its aspects. Discussion centers on such topics as acting, directing, the role of the audience, stagecraft, scene and costume design, dramatic structure, important periods in theatre history, and live production criticism.

### THEA 1169 - Introduction to Stage Lighting

**3 credit hour(s)**

**Pre- or corequisite:** THEA 1119.

Explores all areas of stage lighting. Through lecture and hands-on training, students will be introduced to stage lighting from creating a light plot, hanging, circuiting, focusing, and programming a lighting console.

### THEA 1290 - Theatre Practicum I

**1 credit hour(s)**

**Pre- or corequisite:** THEA 1119.

Theatre Practicum complements technical theatre training and acting by providing on-the-job technical or performance play production experience. Requires students to complete a minimum of 45 hours in a community, professional, or educational theatre production.

### THEA 2096-2996 - Special Topics

**1-6 credit hour(s)**

**Prerequisite:** IRW 0980 or equivalent. Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### THEA 2222 - Acting for the Camera

**3 credit hour(s)**

**Prerequisite:** THEA 1120.

Introduces students to techniques specific to performing for the camera while they continue to learn and practice performance skills that apply to acting for both the stage and screen.

### **THEA 2226 - Ensemble Improvisation**

**3 credit hour(s)**

**Prerequisite:** THEA 1120 or department approval.

Introduces students to the structure and rules of short and long-form improvisation, allowing them to create original ensemble theatrical productions.

### **THEA 2231 - Voice and Movement for Actors**

**3 credit hour(s)**

**Prerequisite:** THEA 1120 or department approval.

Introduces basic techniques which aid in vocal and physical strength, variety, flexibility, and stamina, and addresses harmful or limiting vocal and physical habits in the stage or screen actor.

### **THEA 2258 - Beginning Screenwriting: Short Form**

**3 credit hour(s)**

**Prerequisite:** ENG 1101 or appropriate placement score.

**Recommended:** THEA 1122.\*

Provides the critical ingredients of great dramatic writing that are then adapted to a dramatic form manageable for the emerging screenwriter: the narrative short film.

\* THEA 1122 is a foundational course covering theatrical production; awareness of the various aspects of theatre is crucial to successful screenwriting.

## **Truck Driving**

### **TRDR 1120 - Basic Operational Theory and Practices**

**6 credit hour(s)**

**Pre- or corequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Covers the fundamentals of control systems, public and employer relations, accident procedures, defensive driving techniques, written commercial driver's licensing needs and state and federal regulations governing the professional truck driver. Also starts to cover on-the-driving-range inspection, basic control, backing, coupling and uncoupling, hazard perception, visual search. Students will receive a minimum of 10 hours behind-the-wheel driving time.

**Note(s):**

- 60 theory hours
- 90 lab hours
- Standard truck driver requirements apply

### **TRDR 1220 - Intermediate Truck Driving Theory and Practice**

**6 credit hour(s)**

**Prerequisite:** TRDR 1120 + department approval.

Covers hours of service requirements, trip planning, defensive driving techniques, the fundamentals of control systems, on-the-driving-range inspection, basic control, shifting, backing, coupling and uncoupling, hazard perception, visual search, speed and space management, preventative maintenance and handling cargo. Students will receive a minimum of 10 hours behind-the-wheel time. This course will build on coverage of items from TRDR 1120 which includes public and employer relations, accident procedures, written commercial driver's licensing needs and state and federal regulations governing the professional truck driver.

**Note(s):**

- Completed DOT drug screen
- Submission of MVD report
- 60 theory hours
- 90 lab hours



## TRDR 1392 - Advanced Operational Practices

**2 credit hour(s)**

**Prerequisite:** TRDR 1220 + TRDR 1120 + department approval.

Presents skills needed to cope with hazards of the roadway environment. Course sessions are scheduled during the day, evening and night hours and include driving on mountain grades, urban and rural roads, interstates and docking facilities. Students will receive a minimum of 30 hours behind-wheel-driving time.

**Note(s):**

- 90 lab hours

## TRDR 1420 - Class B Theory and Operational Practices

**9 credit hour(s)**

**Pre- or corequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

Covers the fundamentals of control systems, hours of service requirements, trip planning, public and employer relations, accident procedures, defensive driving techniques, written commercial driver's licensing needs and state and federal regulations governing the professional Class B CDL truck driver. During lab hours this course covers on-the-driving-range vehicle inspection, basic control, shifting, backing, coupling and uncoupling, hazard perception, visual search, speed and space management, preventive maintenance and handling cargo. This course also presents the skills needed to cope with hazards of the roadway environment. Course lab sessions may be scheduled during the day, evening and night hours and include driving on mountain grades, urban and rural roads, interstates and docking facilities during the road training portion of the class. Students will receive a minimum of 20 hours behind-wheel time.

**Note(s):**

- Standard truck driver requirements apply
- 90 theory hours
- 135 lab hours

## TRDR 2096-2996 - Special Topics

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

## TRDR 2097 - Independent Study

**1-7 credit hour(s)**

Focuses on a specific problem while working with an instructor.

# Veterinary Technology

## VT 1003 - Preparation for Professional Success

**1 credit hour(s)**

**Recommended:** IT 1010 .\*

Open to students considering, or preparing to enter, a HWPS Professional Program. Students will explore professional aspects specific to their field of interest, considering various professional attitudes, ethics, and basic client or patient communications. Opportunities will be offered for students to make personal physical or mental adjustments in preparation to succeed in the HWPS Program. (CR/NC)

\* VT 1003 is taught almost entirely online. IT 1010 is recommended for any student interested in VT 1003 who is not familiar with the online environment.

## VT 1005 - Veterinary Reception Basic Skills

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Presents essential veterinary / animal care receptionist front office skills. Emphasizes customer service and professionalism, and introduces vocabulary applicable to veterinary, agricultural, and retail animal care fields.

## **VT 1008 - Applied Mathematics for Veterinary Technicians**

**1 credit hour(s)**

**Prerequisite:** (BIO 1410 + BIO 1492) or (BIO 1510 + BIO 1592) + (CHEM 1410 + CHEM 1492) or (CHEM 1710 + CHEM 1792) + AAS Math Requirement + ENG 1101 + department approval.

**Pre- or corequisite:** IT 1010 + VT 1011.

**Corequisite:** VT 1012 + VT 1070 + VT 1292.

This course introduces conversions between metric and household systems and common abbreviations used in preparing medications. Presents applications in disciplines such as calculating medication dosages, percentage of weight loss, oral medications, intravenous fluid therapy, solutions and dilutions.

## **VT 1011 - Introduction to the Veterinary Profession**

**3 credit hour(s)**

**Prerequisite:** IRW 0980 + MATH 0970 or appropriate placement score.

Introduces veterinary medical team opportunities for the paraprofessional. Includes legal, ethical, and professional topics. Presents veterinary medical terminology including phylogenetic and taxonomic relationships of domestic, laboratory, and exotic animals.

## **VT 1012 - Introduction to Animal Care**

**2 credit hour(s)**

**Pre- or corequisite:** VT 1011.

**Corequisite:** VT 1008 + VT 1070 + VT 1292.

Provides discussion and presentation of animal handling and restraint, with both on campus procedural laboratory time and field trips to various animal facilities, with opportunities for hands-on experience.

### **Note(s):**

- 15 theory hours
- 45 lab hours

## **VT 1070 - Animal Comparative Anatomy and Physiology**

**3 credit hour(s)**

**Pre- or corequisite:** VT 1011.

**Corequisite:** VT 1008 + VT 1012 + VT 1292.

Comparative anatomy and physiology of canine, bovine, equine, feline species including circulatory, respiratory, digestive, muscular/skeletal, nervous, endocrine, exocrine, urogenital systems. Also includes a brief anatomy and physiology of avian and reptile species. Requires hands on laboratory experience including dissection.

### **Note(s):**

- 30 theory hours
- 45 lab hours

## **VT 1192 - Supplemental Lab**

**1 credit hour(s)**

**Pre- or corequisite:** VT 1008.

Provides participation in supervised learning and review of basic, advanced and specialized practices, including topics in Anatomy and Physiology, Therapeutics, Clinical Pathology. Allows students to review in preparation for VT exit examinations.

### **Note(s):**

- 45 lab hours

## **VT 1210 - Animal Comparative Anatomy and Physiology II**

**3 credit hour(s)**

**Prerequisite:** IT 1010 + VT 1008 + VT 1011 + VT 1012 + VT 1070 + VT 1292.

**Pre- or corequisite:** PSY 1105.

**Corequisite:** VT 1251 + VT 1272 + VT 1293 + VT 2015.

Continues study of comparative anatomy and physiology of canine, bovine, equine, feline species including circulatory, respiratory, digestive, muscular/skeletal, nervous, endocrine, exocrine, urogenital systems. Requires hands-on laboratory experience including dissection.

**Note(s):**

- 30 theory hours
- 45 lab hours

**VT 1251 - Radiology for Veterinary Technicians Lecture****1 credit hour(s)**

**Corequisite:** VT 1210 + VT 1293 + VT 1272 + VT 2015.

Presents radiography basics including safety measures, film, film storage, generation and analysis of radiographs, developing solutions and processing, tube rating and exposure charts, control factors, radiographic quality, positioning and contrast media.

**VT 1272 - Surgical Technology for Veterinary Technicians****2 credit hour(s)**

**Corequisite:** VT 1210 + VT 1251 + VT 1293 + VT 2015.

Introduces students to surgical procedures, instruments, suture materials, surgical supplies and surgical preps. Overview of anesthesia and emergencies, surgical emergencies and post-surgical care. Includes clinical experience as circulating technician.

**Note(s):**

- 15 theory hours
- 45 lab hours

**VT 1292 - Veterinary Office and Hospital Procedures Lab****1 credit hour(s)**

**Pre- or corequisite:** VT 1011.

**Corequisite:** VT 1008 + VT 1012 + VT 1070.

Introduces veterinary office procedures in a hands-on laboratory experience. Various aspects of facility management will be presented using traditional and electronic media to prepare student to effectively contribute to the professional and efficient operation of a veterinary facility. Emphasis will be on veterinary computer software applications, veterinary online services, telephone skills and role-playing in client communication situations.

**Note(s):**

- 45 lab hours

**VT 1293 - Radiology for Veterinary Technicians Laboratory****1 credit hour(s)**

**Corequisite:** VT 1210 + VT 1251 + VT 1272 + VT 2015.

Introduces exercises and demonstrations related to veterinary radiology. Includes field trips, exercises and demonstrations at veterinary clinics.

**Note(s):**

- 45 lab hours

**VT 2010 - Clinical Pathology for Veterinary Technicians I****4 credit hour(s)**

**Prerequisite:** PSY 1105 + VT 1210 + VT 1251 + VT 1272 + VT 1293 + VT 2015.

**Corequisite:** VT 2190 + VT 2674.

Provides a clinical laboratory setting for students to learn the diagnostic techniques in parasitology, urinalysis, microbiology and cytology including proper collection, preparation and evaluation of specimens.

**Note(s):**

- 30 theory hours
- 90 lab hours

**VT 2015 - Non-Infectious and Infectious Diseases for Veterinary Technicians****3 credit hour(s)**

**Corequisite:** VT 1210 + VT 1251 + VT 1272 + VT 1293.

Presents overview of common non- infectious and infectious diseases with a special emphasis on zoonotic diseases, isolation concerns, federal regulations. OSHA requirements, occupational safety, the CVTEA policy on safety and necropsy techniques.

### **VT 2096-2996 - Special Topics**

**1-6 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **VT 2190 - Veterinary Technology Clinical I**

**4 credit hour(s)**

**Corequisite:** VT 2010 + VT 2674.

Applies theory to practice at veterinary clinics performing hands-on duties including radiology, kennel maintenance, animal handling and restraint, pre and post surgical preparation and operating room etiquette, etc.

**Note(s):**

- 15 theory hours
- 135 clinical hours

### **VT 2592 - Advanced Supplemental Lab for Veterinary Technology (CR/NC)**

**1 credit hour(s)**

**Pre- or corequisite:** VT 1008.

Provides second-year Veterinary Technology students with the opportunity for additional learning and practice of veterinary technology skills in the campus laboratory. Encourages preparation for the VTNE.

### **VT 2610 - Clinical Pathology for Veterinary Technicians II**

**4 credit hour(s)**

**Prerequisite:** VT 2010 + VT 2190 + VT 2674.

**Corequisite:** VT 2651 + VT 2690 + VT 2692.

Identifies RBC, WBC, PCV, TP, platelets and blood parasites. Students learn how to perform staining techniques, heartworm tests and coagulation tests, how to perform serum analysis and how to use diagnostic in house lab kits.

**Note(s):**

- 30 theory hours
- 90 lab hours

### **VT 2651 - Anesthesiology for Veterinary Technicians Lecture**

**2 credit hour(s)**

**Corequisite:** VT 2610 + VT 2690 + VT 2692.

Studies anesthesia in large and small domestic animals, exotic and laboratory species. Includes preanesthetic evaluation, induction of anesthesia, patient monitoring and recovery, principles of fluid therapy related to anesthesia, dosage calculations, and identification, care, and maintenance of anesthetic machines.

### **VT 2674 - Applied Therapeutics and Care for Veterinary Technicians I**

**2 credit hour(s)**

**Corequisite:** VT 2010 + VT 2190.

Presents skills such as venipuncture, medication administration, IV therapy, bandaging and splinting, catheterization techniques, recumbent patient care and blood transfusions.

**Note(s):**

- 15 theory hours
- 45 lab hours

## **VT 2690 - Veterinary Technology Clinical II**

**3 credit hour(s)**

**Corequisite:** VT 2610 + VT 2651 + VT 2692.

Applies theory to practice at clinics, performing hands-on duties that include: specimen collection, urinalysis, parasite evaluation, wound management, administration of medications, IV catheterization, veni-puncture and client education.

**Note(s):**

- 180 clinical intensive hours

## **VT 2692 - Anesthesiology for Veterinary Technicians Lab**

**1 credit hour(s)**

**Corequisite:** VT 2610 + VT 2651 + VT 2690.

Introduces exercises and demonstrations related to veterinary anesthesiology. May include field trips, exercises and demonstrations and laboratories at veterinary clinics.

**Note(s):**

- 45 Lab Hours

## **VT 2803 - Pharmacology for Veterinary Technicians**

**3 credit hour(s)**

**Prerequisite:** VT 2610 + VT 2651 + VT 2690 + VT 2692.

**Corequisite:** VT 2884 + VT 2890 + VT 2892.

Presents overview of veterinary pharmacology and therapeutics, drug categories and use of drugs, administration methods, pharmacokinetics, prescription labeling and dispensing procedures, calculations, controlled substances including record logs, inventory control and ethical issues relating to handling drugs.

## **VT 2884 - Applied Therapeutic II Avian Laboratory Exotic and Large Animals**

**4 credit hour(s)**

**Corequisite:** VT 2803 + VT 2890 + VT 2892.

Presents recognition, restraint, behavior, surgical assisting and basic care of caged birds, reptiles, amphibians, ferrets, rabbits, rodents and large animals. Includes appropriate sites and routes of medication administration for each species, specimen collection sites and husbandry procedures such as feeding, watering, housing and aquarium care.

**Note(s):**

- 45 theory hours
- 45 lab hours

## **VT 2890 - Veterinary Technology Clinical III**

**3 credit hour(s)**

**Corequisite:** VT 2803 + VT 2884 + VT 2892.

Applies theory to practice at veterinary clinics performing duties that include handling, therapeutics and care of laboratory and exotic animals, surgical assisting and hematological exams.

**Note(s):**

- 180 clinical intensive hours

## **VT 2892 - Dentistry for Veterinary Technicians**

**1 credit hour(s)**

**Prerequisite:** VT 2690.

**Corequisite:** VT 2803 + VT 2890 + VT 2884.

Studies prophylactic technique, charting, identification of normal tooth structure, number of teeth in each domestic species, identification of common dental problems, dental radiography and client dental education.

**Note(s):**

- 45 lab hours

# Welding

## WELD 1005 - Welding Blueprint Reading I

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Covers detail and fabrication drawing interpretation, welding symbols and terminology as applied to the welding industry.

## WELD 1020 - Introduction to Metallurgy

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Introduces basic science of metals, including structure and welding processes for ferrous and non-ferrous metals. Covers principles of safety and human relations.

## WELD 1025 - Welding Blueprint Reading II

**2 credit hour(s)**

**Prerequisite:** WELD 1005 or department approval.

Provides instruction in commercial construction and fabrication drawing interpretation and covers detail and assembly drawings related to the welding field and the transferring of measurements from blueprints to a workpiece.

## WELD 1030 - Welding Math

**3 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Provides instruction in area, perimeter and volumes of common structural shapes and common layout techniques supported with mathematical applications.

## WELD 1040 - Welding Technology CAD/CNC

**2 credit hour(s)**

**Prerequisite:** WELD 1005 + WELD 1020 + WELD 1030 + WELD 1050.

Presents computer-assisted drafting and computer numerical control as applied in welding technology on hardware typically found in the welding shop.

## WELD 1050 - Oxyacetylene Welding and Cutting

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score or department approval.

Presents safety and use of oxyacetylene equipment. Provides training in thermal cutting torches, fusion welding, welding of alloys and general all-position welding.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1092

## WELD 1062 - Welding Fundamentals

**3 credit hour(s)**

**Recommended:** AUTC 1240 or DETC 1240 or MATT 1240 or PLMB 1235.\*

Introduces safety practices, basic tools and equipment, operating procedures and applications of oxyacetylene cutting & welding, shielded metal arc welding (SMAW), gas metal arc welding (GMAW) and gas tungsten arc welding (GTAW), basic math and blueprint reading.

\* Students should have a basic knowledge of materials, systems, and tools.

**Note(s):**

- 135 lab hours

### **WELD 1150 - Introduction to SMAW**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** WELD 1050 or department approval.

Covers topics in shielded metal-arc welding (SMAW) safety, basic fabrication and repair and customer relations.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1192

### **WELD 1160 - Advanced SMAW**

**2 credit hour(s)**

**Prerequisite:** WELD 1005 + WELD 1020 + WELD 1030 + WELD 1050 + WELD 1150.

Presents advanced instruction in shielded metal arc welding (SMAW) with a strong emphasis on safety, work ethics and shop procedures.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1292

### **WELD 1170 - Qualifications for SMAW**

**2 credit hour(s)**

**Prerequisite:** WELD 1025 + WELD 2001 + WELD 1160.

Covers simulated qualification procedures for shielded metal arc welding (SMAW), in all positions.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1392

### **WELD 1250 - Introduction to GTAW and Fabrication Lab**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** WELD 1050 or department approval.

Emphasizes application of safety and gas tungsten arc welding (GTAW) on carbon steel. Fabrication and repairs are stressed. Customer billing techniques are introduced.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1592

### **WELD 1260 - Advanced GTAW and Fabrication**

**2 credit hour(s)**

**Prerequisite:** WELD 1005 + WELD 1020 + WELD 1030 + WELD 1250 or department approval.

Covers advances aluminum and stainless steel gas tungsten arc welding (GTAW) and specialized fabrication/repair. Customer problems, teamwork, problem solving and work ethics are stressed.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 2292

**WELD 1270 - Qualifications for GTAW**

**2 credit hour(s)**

**Prerequisite:** WELD 1025 + WELD 2001 + WELD 1260 or department approval.

Covers simulated qualification procedures for gas tungsten arc welding (GTAW) in all positions.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 2392

**WELD 1350 - Introduction to GMAW and Fabrication**

**2 credit hour(s)**

**Prerequisite:** IRW 0970 + MATH 0970 or appropriate placement score.

**Pre- or corequisite:** WELD 1050 or department approval.

Covers gas metal arc welding (GMAW) safety techniques. Fabrication and repairs are assigned. Teamwork is stressed.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1492

**WELD 1360 - Advanced GMAW and Fabrication**

**2 credit hour(s)**

**Prerequisite:** WELD 1005 + WELD 1020 + WELD 1030 + WELD 1350 or department approval.

Focuses on instruction in advanced carbon steel gas metal arc welding (GMAW), fabrication/repair, problem solving and teamwork.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1692

**WELD 1370 - Qualifications for GMAW**

**2 credit hour(s)**

**Pre- or corequisite:** WELD 1025 + WELD 2001 + WELD 1360 or department approval.

Provides stimulated qualification procedures for gas metal arc welding (GMAW), in all positions.

**Note(s):**

- 15 theory hours
- 45 lab hours



- 15 hours additional instruction per term
- Previously WELD 2092

### **WELD 1460 - Pipe Layout and Welding**

**2 credit hour(s)**

**Prerequisite:** WELD 1005 + WELD 1020 + WELD 1030.

**Pre- or corequisite:** WELD 1160 + WELD 1260 + WELD 1360 or department approval.

Introduces basic pipe welding and layout, materials testing and industrial safety, as well as welding problems.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 2192

### **WELD 1480 - Qualifications for Pipe**

**2 credit hour(s)**

**Prerequisite:** WELD 1460 + WELD 1570 or department approval.

Provides simulated qualification procedures for pipe welding and layout, materials testing and industrial safety, as well as welding problems.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 2692

### **WELD 1570 - Project and Fabrication**

**2 credit hour(s)**

**Prerequisite:** WELD 1025 + WELD 2001.

**Pre- or corequisite:** WELD 1170 + WELD 1270 + WELD 1370 or department approval.

An all process welding fabrication class to include the use of, shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, oxyacetylene and Plasma cutting. Students will utilize industrial fabrication and repair problems for assigned projects on advanced fabrication equipment. Course also includes training in welding safety and customer relations.

**Note(s):**

- 15 theory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 2492

### **WELD 1580 - Advance Project and Fabrication Lab**

**2 credit hour(s)**

**Prerequisite:** WELD 1570 or department approval.

An advanced all process welding fabrication class to include the use of, shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, oxyacetylene and Plasma cutting. Students will utilize industrial fabrication and repair problems for assigned projects on advanced fabrication equipment. Students will create blueprints for assigned projects. Course also includes training in welding safety and customer relations.

**Note(s):**

- 15 theory hours
- 45 lab hours

- 15 hours additional instruction per term
- Previously WELD 2792

### **WELD 2001 - Advanced Blueprint Reading**

**2 credit hour(s)**

**Prerequisite:** WELD 1005 or department approval.

Covers pipe layout and development, structural print reading and design and layout considerations related fabrication, material and cost estimating.

### **WELD 2096-2996 - Special Topics**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Presents various topics.

**Note(s):**

- All courses ending in 96 are special topics. (See *Schedule of Classes*.)

### **WELD 2097 - Independent Study**

**1-7 credit hour(s)**

**Prerequisite:** Department approval.

Focuses on a specific problem while working with an instructor.

### **WELD 2999 - Welding Capstone Course**

**1 credit hour(s)**

**Prerequisite:** Department approval.

Preparation of a professional portfolio that demonstrates student's mastery of technical and core competencies.

## **Womens Studies**

### **WMST 1150 - Introduction to Women's Studies**

**3 credit hour(s)**

**Pre- or corequisite:** IRW 0970 or appropriate placement score.

Provides an introduction to the study of women's issues by examining the diversity of women's lives in the United States within a global context. Includes topics such as race, ethnicity, class, age, disability, sex, women's work, women's health and women and crime.

# What's New!

## New Programs:

Beverage Management, Certificate of Completion

Sustainable Building Technology, Certificate of Completion

Brewing Technology, Certificate of Achievement

Brewing and Beverage Management (AAS)

Community Health Worker, Certificate of Achievement

Computer Information Systems (AAS), Computer Support Specialist Concentration

Computer Information Systems (AAS), Web Programming Concentration

Computer Information Systems (Certificate of Completion), Cloud Technology

Computer Information Systems (Certificate of Completion), Computer Programming

Computer Information Systems (Certificate of Completion), Computer Support Specialist

Computer Information Systems (Certificate of Completion), Network Administration

Computer Information Systems (Certificate of Completion), Systems Administration

Computer Information Systems (Certificate of Completion), Web Programming

Construction for Film, Certificate of Completion

Culinary Arts (AAS), Beverage Management Concentration

Customer Service Representative, Certificate of Completion

ESOL (English for Speakers of Other Languages) Communication and Culture, Certificate of Completion

Earth and Planetary Science, Associate of Science

Emergency Medical Services (Certificate of Completion), Emergency Room Technician

Film Technology (AAS)

General Studies, Certificate of Completion

Geography, Associate of Arts

Health, Wellness, and Public Safety (HWPS), Certificate of Completion

Home Health Aide, Certificate of Achievement

Polysomnographic Technology, Associate of Applied Science

Pre-Health Science (AS), Pre-Medical Concentration

Pre-Health Science, Pre-Medical Certificate of Completion

Rapid Prototyping and Innovative Design, Certificate of Achievement

Retail Management, Certificate of Completion

Surveying Technology, Certificate of Completion

## New Courses:

ACCT 1115 - Introduction to Financial Accounting

ACCT 1401 - Volunteer Tax Updates

ACCT 1498 - Volunteer Tax Internship II

ARTS 1130 - Digital Studio Fundamentals

ARTS 1135 - Introduction to Digital Photography

ASL 1101 - Beginning American Sign Language

AT 1010 - Applied Technologies in Construction

AT 1020 - Applied Technologies in Design  
AT 1030 - Applied Technologies in Manufacturing  
AT 1040 - Applied Technologies in Transportation  
AT 1096 - 1996 - Special Topics  
BEV 1100 - Beer Production and Styles  
BEV 1110 - Brewing Equipment and Maintenance  
BEV 1130 - Beer Production I  
BEV 1140 - Beer Production II  
BEV 1160 - Beverage Service I  
BEV 1192 - Draught Systems  
BEV 2160 - Beverage Service II  
BIO 1592 - Molecular and Cell Biology Laboratory  
BIO 1692 - Genetics Laboratory  
BIO 2492 - Ecology & Evolution Laboratory  
BIO 2592 - Plant & Animal Form and Function Laboratory  
BPCS 1092 - Basic Patient Care Skills  
CDHC 1119 - Fundamentals of Community Health Coordination  
CHW 1010 - Community Health Worker Fundamentals  
CHW 1020 - Health Promotion  
CHW 1090 - Community Health Worker Practicum  
CIS 2341 - Web Presence  
CIS 2763 - Web Programming Framework  
CIS 2860 - Digital Forensics  
CIS 2899 - Cyber Security Capstone  
CJ 2998 - Criminal Justice Capstone  
CM 1233 - Sustainable Building Practices  
CM 2230 - Building Energy Analysis  
DANC 1169 - Flamenco Dance I  
EDUC 1190 - Teacher Education Practicum  
EDUC 2243 - Children's Literature  
EDUC 2315 - Educating Linguistically and Culturally Diverse Students  
EMS 2015 - EMS Combo BLS/ILS/ALS Refresher  
EMS 2105 - EMS Program Success Course  
EMS 2192 - Drug Calculations Lab  
EMS 2790 - Capstone Field Experience  
EPS 1211 - Dinosaurs  
EPS 2201 - Earth History  
EPS 2292 - Earth History Laboratory  
ESOL 0971 - Integrated Reading and Writing for Speakers of Other Languages I  
ESOL 0981 - Integrated Reading and Writing for Speakers of Other Languages II  
ESOL 1001 - Academic and Workplace Communication for Specific Purposes  
ESOL 1010 - Reading and Vocabulary for Specific Purposes

ESOL 1020 - English Composition and Grammar for Specific Purposes  
ESOL 1030 - U.S. Culture and Contemporary Issues for Specific Purposes  
FILM 1004 - Shooting Your Story  
FILM 2001 - Art Department  
FILM 2002 - Directing for the Camera  
FILM 2005 - Advanced Film Editing  
FILM 2010 - Survey of Films and Film Industry  
GEMS 0500 - General Education Multi-Subject  
GEOG 1960 - Geography of Food  
GEOG 2510 - Meteorology  
GIS 1002 - Fundamentals of Geospatial Technology  
GIS 1008 - Land Information Systems  
GIS 2008 - GPS Field Mapping  
GIS 2011 - Remote Sensing and Image Processing  
HHA 1090 - Home Health Attendant Foundation Skills: Personal Care Assistant  
HHA 1190 - Home Health Aide Advanced Skills  
HIT 1240 - Principles of Disease  
HIT 1250 - Pharmacology and Laboratory Procedures  
HLTH 1010 - Medical Ethics and Law  
HSV 2203 - Introduction to Addiction Counseling  
HSV 2204 - Professional Issues in Substance Abuse Treatment  
HSV 2205 - Adolescent Substance Abuse: Prevention and Treatment  
HT 1111 - Guest Service Management  
HT 2240 - Hospitality Law  
IRW 0970 - Integrated Reading and Writing I  
IRW 0980 - Integrated Reading and Writing II  
LTAM 1110 - Introduction to Latin American Studies  
LTAM 1111 - Latin American Film  
MATH 0970 - Algebraic Problem Solving I  
MATH 0980 - Algebraic Problem Solving II  
MATH 1331 - Introduction to Data Analysis Using Technology  
NA 1096-1996 - Special Topics  
NAVS 1193 - Navy & Marine Corps Fitness  
PSG 1010 - Introduction to EEG  
PSG 1020 - Applied Neurologic Anatomy and Physiology  
PSG 1035 - Biomedical Electronics  
PSG 1040 - Introduction to Sleep Disorder Medicine  
PSG 1535 - Sleep Disorders Principles and Practices  
PSG 1590 - Polysomnography Clinical Experience I  
PSG 2035 - Sleep Therapeutics  
PSG 2045 - Record Scoring  
PSG 2090 - Polysomnography Clinical Experience II

PTA 1010 - The Profession of Physical Therapy  
PTA 1020 - Pre-PTA Anatomy Fundamentals  
PTA 1110 - Orientation to Physical Therapist Assistant  
PTA 1120 - Clinical Kinesiology  
PTA 1130 - PTA Pathophysiology  
PTA 1140 - PTA Procedures I  
PTA 1520 - Therapeutic Exercise  
PTA 1530 - Orthopedics for PTA  
PTA 1540 - Clinical Neurology and Management  
PTA 1550 - Physical Agents  
PTA 2010 - PTA Procedures II  
PTA 2210 - Professional Issues  
PTA 2290 - Clinical Practicum II  
PTA 2390 - Clinical Practicum III  
RADT 1092 - Patient Care for Radiography  
RADT 2999 - Radiologic Technology Capstone  
RPID 1005 - 3 Dimensional CAD  
RPID 1010 - Design and Simulation  
RPID 1015 - Prototype Fabrication I  
RPID 1020 - Prototype Fabrication II  
RT 1060 - Respiratory Therapy I  
RT 1080 - Cardiopulmonary Pathophysiology I  
RT 1092 - Respiratory Therapy Lab I  
RT 1560 - Respiratory Therapy II  
RT 1580 - Cardiopulmonary Pathophysiology II  
RT 1592 - Supplemental Skills Lab  
RT 1593 RT 1593 - Respiratory Therapy Lab II  
RT 2060 - Advanced Respiratory Therapy I  
RT 2080 - Cardiopulmonary Pathophysiology III  
RT 2092 - Advanced Supplemental Skills Lab  
RT 2093 RT 2093 - Advanced Respiratory Therapy Lab I  
RT 2460 - Advanced Respiratory Therapy II  
RT 2480 - Cardiopulmonary Pathophysiology IV  
RT 2492 - Advanced Respiratory Therapy Lab II  
SERV 1190 - Service Learning  
SPAN 1104 - Spanish for Medical Professionals  
SPAN 2204 - Spanish Language in Film  
SUR 2001 - Intermediate Field Procedures  
SUR 2002 - Intermediate Surveying Topics  
SUR 2096-2996 - Special Topics  
THEA 1169 - Introduction to Stage Lighting

