- **The CNM catalog provides overall program and course information.**
- **Looking for the Mobile Version of the catalog?** Go to http://m.catalog.cnm.edu
- **Search** - The CNM catalog is searchable by course, program, keyword and more.
- **My Portfolio** - allows you to record and track your favorite programs and courses.
- **Easy Printing** - Print only the pages that matter to you. CNM is going green!
- We want your feedback on the CNM academic catalog. Please let us know!
- If you need to access the Class Schedule to find dates and times for specific courses, go to cnm.edu/schedules.

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.

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.

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 fewer than 12 students enroll in a course, the course may be cancelled. Not all courses will be offered every term.

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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 may be stopped from enrolling or may 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 "C" or better grade.

Most entry-level courses have prerequisites for math, English or reading. 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:

1. Take the free Accuplacer placement exam at CNM (see Assessment Centers). Accuplacer scores cannot be more than five years old. **Placement Exam Score Guide**
2. Submit official ACT or SAT scores (no more than five years old) to any CNM Admissions Office.
3. Take a placement or challenge exam for Biology, IT 1010(IC3), Spanish or French.
4. Enroll in the required prerequisite course and pass it with a grade of CR or C or higher.
5. 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 advisor for further assistance with prerequisite and course placement.

Note: Students with an associate's degree or higher may have the following prerequisites waived: all developmental courses (numbered below 1000) and **ENG 1101** .

Prerequisite Overrides

Please be advised that prerequisite overrides <u>do</u> <u>not</u> 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:

1. Taking and successfully completing the course
2. Taking and passing a challenge exam for the course, if available
3. Passing an industry certification exam, if available
4. Transferring an equivalent course from another institution
5. 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 3 Proficiency Levels for Math, 2 for English, and 2 for Reading.

Proficiency requirements can be met through Accuplacer, CNM's placement exam, SAT or ACT scores, or by successfully completing appropriate level course work (See the Prerequiste and Program Proficiency Guide below)

In order to meet this Proficiency:	**Your placement scores must be within this range:**	**Or, you must have successfully completed the following course(s):**
English 1 Proficiency Students with this level of proficiency are able to identify and compose in different types of writing for personal, academic and professional purposes.	• Accuplacer sentence skills score of 69-84 • ACT English score of 14-15 • SAT verbal/critical reading score of 290-320	**ENG 0750** or **ESOL 0751**
English 2 Proficiency Students with this level of proficiency are able to do all required for Level 1 proficiency as well as write expository academic essays and integrate other source material into their writing.	• Accuplacer sentence skills score of 85-109 • ACT English score of 16-22 • SAT verbal/critical reading score of 330-450	ENG 0950 or **ESOL 0951**
In order to meet this Proficiency:	**Your placement scores must be within this range:**	**Or, you must have successfully completed the following course(s):**
Math 1 Proficiency Students with this level of proficiency are able to compute arithmetic operations up to rational numbers, recognize and apply formulas to basic geometric figures, and solve basic linear equations.	• Accuplacer arithmetic score of 57-96 or elementary algebra score of 31-42 • ACT math score of 15-16 • SAT quantitative/math score of 320-340	**MATH 0750**
Math 2 Proficiency Students with this level of proficiency are able to do all required for Level 1 proficiency as well as integrate	• Accuplacer arithmetic score of 97-120 or elementary algebra	**MATH 0930**

arithmetic operations into the manipulation of algebraic expressions. They are able to solve linear equations in terms of math properties and rules, graphically represent solutions to linear equations in two variables, and interpret characteristics of lines representing linear equations in two variables.	score of 43-65 • ACT math score of 17-18 • SAT quantitative/math score of 350-390	
Math 3 Proficiency Students with this level or proficiency are able to do all required for Level 1 and 2 proficiencies. Additionally students will be able to work with exponents and polynomials, factoring, solving system of equations and quadratic equations.	• Accuplacer elementary algebra score of 66-103 • ACT math score of 19-21 • SAT quantitative/math score of 400-430	**MATH 0940**
In order to meet this Proficiency:	**Your placement scores must be within this range:**	**Or, you must have successfully completed the following course(s):**
Reading 1 Proficiency Students with this level of proficiency are able to find and summarize the main ideas and major supporting details in articles and textbook passages. They are able to take and organize notes and use strategies to develop academic vocabulary.	• Accuplacer reading score of 69-79 • ACT reading score of 16-17 • SAT verbal/critical reading score of 300-320	**RDG 0750**
Reading 2 Proficiency Students with this level of proficiency are able to do all required for Level 1 proficiency as well as make inferences from writing passages and identify logical and emotional reasoning. They are able to evaluate web sources and can use critical thinking strategies.	• Accuplacer reading score of 80-120 • ACT reading score of 18-36 • SAT verbal/critical reading score of 330-800	**RDG 0950**
In order to meet this Proficiency:	**Your placement scores must be within this range:**	**Or, you must have successfully completed the following courses:**
Biology Proficiency Students with this level of proficiency are able to enroll in **BIO 2110** , **BIO 2192** , **BIO 2210** , **BIO 2292** , and **NUTR 2110** .	**Biology Placement Exam** score of 64 or higher*	[(**CHEM 1410** & **CHEM 1492**) or (**CHEM 1710** &

		CHEM 1792)] **&** [(**BIO 1410** & **BIO 1492**) or **BIO 1610/1692**]

* 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 1510/1592 +BIO 1610/1692** , **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 1510/1592 +BIO 1610/1692** , **CHEM 1410 /CHEM 1492** or **CHEM 1710 /CHEM 1792** . A student will still need to take these courses if they are required by their degree program at another institution.

Program Proficiencies and Prerequisites Language

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

State of New Mexico General Education Core Requirements for (AA) and (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.

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.

Oral and Written Communication

- Six (6) credit hours of writing and three (3) credit hours of oral communication required

- **ENG 1101, ENG 1102, ENG 1119, ENG 2219, ENG 2220, ENG 2221, ENG 2222**
- **COMM 1130, COMM 2221, COMM 2225, COMM 2232, COMM 2270, COMM 2280**
- **JOUR 1171, JOUR 2271**

Mathematics

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

- **MATH 1315, MATH 1320, MATH 1330, MATH 1340 , MATH 1410, MATH 1415, MATH 1460, MATH 1465, MATH 1710, MATH 1715**

Laboratory Science

- Eight (8) credit hours required, to include at least one laboratory class

* Meets laboratory class requirement

- **ASTR 1110, ASTR 1192**
- **BIO 1010, BIO 1092, BIO 1110, BIO 1192, BIO 1310, BIO 1392, BIO 1410, BIO 1492, BIO 1510/1592, BIO 1610/1692, BIO 2110, BIO 2192, BIO 2410/2492, BIO 2510/2592**
- **NS 1010, NS 1015, NS 2010 ***
- **CHEM 1010, CHEM 1092, CHEM 1410, CHEM 1492, CHEM 1710, CHEM 1792, CHEM 1810, CHEM 1892, CHEM 2710, CHEM 2792**
- **EPS 1101, EPS 1192**
- **GEOG 1101, GEOG 1192**
- **PHYS 1010 , PHYS 1092, PHYS 1510, PHYS 1592, PHYS 1610, PHYS 1692, PHYS 1710, PHYS 1792, PHYS 1810, PHYS 1892**

Social/Behavioral Science

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

- **ANTH 1101, ANTH 1110, ANTH 1120, ANTH 1121/1192, ANTH 1130, ANTH 2238**
- **CST 1150, CST 2260**
- **ECON 1101, ECON 2200, ECON 2201, ECON 2203**
- **GEOG 1102**
- **PSCI 1110, PSCI 2200, PSCI 2210, PSCI 2220, PSCI 2240, PSCI 2260**
- **PSY 1105, PSY 2220, PSY 2231, PSY 2233**
- **SOC 1101, SOC 2205, SOC 2211, SOC 2213, SOC 2216, SOC 2221, SOC 2225, SOC 2235**

Humanities/Fine Arts

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

Humanities

- **ENG 1150, ENG 2250, ENG 2251, ENG 2252, ENG 2262, ENG 2263, ENG 2270, ENG 2282, ENG 2284, ENG 2285, ENG 2287, ENG 2288**
- **GNHN 1121, GNHN 1122, GNHN 2211, GNHN 2221**
- **HIST 1101, HIST 1102, HIST 1161, HIST 1162, HIST 1181, HIST 2230, HIST 2240, HIST 2260, HIST 2270, HIST 1182**
- **HUM 1111, HUM 1121**
- **PHIL 1102, PHIL 1110, PHIL 1156, PHIL 2246, PHIL**

2247, PHIL 2248, PHIL 2250, PHIL 2257
- **RLGN 1107, RLGN 2240, RLGN 2263**
- **SPAN 2280**

Fine Arts

- **ARTH 1101, ARTH 2201, ARTH 2202, ARTH 2250, ARTH 2251, ARTH 2260**
- **ENG 2210**
- **MUS 1139, MUS 1140, MUS 1172**
- **THEA 1122**

Computer Literacy

- ***3 credit hours
- **IT 1010**

** The Associate of Arts degree requires a total of fifteen (15) credit hours from the Social/Behavioral Science and Humanities/Fine Arts categories with no fewer than six (6) credit hours in each.

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

General Education Course Requirements for Associate of Applied Science (AAS) Degrees and Certificates

General Education Course Requirements for Associate of Applied Science Degrees and Certificates (15 credits)

The following is a list of general education courses currently offered at CNM, applicable to the Associate of Applied Science (AAS) degree and certificates >45 credits.

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.

Computer Literacy

- Three (3) credit hours required for the AAS degree
- **IT 1010 or challenge exam**

Human Relations

- **AAST 1150**
- **AFST 1150**
- **ANTH 1101, ANTH 1110, ANTH 1120, ANTH 1130, ANTH 2238**

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

- **ARTH 2200**
- **COMM 2221, COMM 2223, COMM 2225, COMM 2280, COMM 2281, COMM 2282**
- **CST 1150, CST 2260**
- **CHMS 1150**
- **EDUC 2203, EDUC 2205**
- **ENG 2216, ENG 2262, ENG 2263, ENG 2282**
- **GNHN 2221**
- **NATV 1150**
- **PHIL 1102, PHIL 2245, PHIL 2246, PHIL 2247**
- **PSCI 2240, PSCI 2260**
- **PSY 1105, PSY 2231, PSY 2233**
- **SOC 1101, SOC 2216, SOC 2225, SOC 2230, SOC 2235**
- **SPAN 2280**
- **WMST 1150**

Mathematics

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

- **MATH 1210, MATH 1310, MATH 1315, MATH 1320, MATH 1330, MATH 1340, MATH 1410, MATH 1415, MATH 1460, MATH 1465, MATH 1710, MATH 1715, MATH 2710, MATH 2810, MATH 2910**

Written Communication

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

- **ENG 1101, ENG 1102, ENG 1119, ENG 2219, ENG 2220, ENG 2221, ENG 2222**

Choice of 3 credits Selected from:

Communication

- **ENG 1101, ENG 1102, ENG 1119, ENG 2219, ENG 2220, ENG 2221, ENG 2222**
- **COMM 1130, COMM 2221, COMM 2225, COMM 2232, COMM 2270, COMM 2280**
- **JOUR 1171, JOUR 2271**

Humanities/Fine Arts

Humanities

- **ENG 2210, ENG 2250, ENG 2251, ENG 2252, ENG 2262, ENG 2263,**

ENG 2270, ENG 2282, ENG 2284, ENG 2285, ENG 2287, ENG 2288

- **HIST 1101, HIST 1102, HIST 1161, HIST 1162, HIST 2230, HIST 2240, HIST 2260, HIST 2270, HIST 1182**
- **HUM 1111, HUM 1121**
- **PHIL 1102, PHIL 1110, PHIL 1156, PHIL 2246, PHIL 2247, PHIL 2248, PHIL 2250, PHIL 2257**
- **RLGN 1107, RLGN 2240, RLGN 2263**
- **SPAN 2280**

Fine Arts

- **ARTH 1101, ARTH 2201, ARTH 2202, ARTH 2250, ARTH 2251, ARTH 2260**
- **MUS 1139, MUS 1140, MUS 1172**
- **THEA 1122**

Laboratory Science

- **ASTR 1110 and ASTR 1192**
- **BIO 1010 and BIO 1092, BIO 1110 and BIO 1192, BIO 1410 and BIO 1492, BIO 1510/1592, BIO 1610/1692, BIO 2110 and BIO 2192, BIO 2210 and BIO 2292, BIO 2310 and BIO 2392, BIO 2410/2492, BIO 2510/2592**
- **CHEM 1410 and CHEM 1492, CHEM 1710 and CHEM 1792, CHEM 1810 and CHEM 1892, CHEM 2710 and CHEM 2792**
- **EPS 1101 and EPS 1192**
- **GEOG 1101 and GEOG 1192**
- **NS 1010, NS 1015, NS 2010**
- **PHYS 1510 and PHYS 1592, PHYS 1610 and PHYS 1692, PHYS 1710 and PHYS 1792, PHYS 1810 and PHYS 1892**

Mathematics

- **MATH 1315, MATH 1320, MATH 1330, MATH 1460, MATH 1465, MATH 1710, MATH 1715**

Social/Behavioral Science

- **AAST 1150**
- **AFST 1150**
- **ANTH 1101, ANTH 1110, ANTH 1120, ANTH 1130, ANTH 2238**
- **CST 1150, CST 2260**
- **CHMS 1150**
- **ECON 1101, ECON 2200, ECON 2201**
- **GEOG 1102**
- **NATV 1150**
- **PSCI 1110, PSCI 2200, PSCI 2210, PSCI 2220, PSCI 2240, PSCI 2260**
- **PSY 1105, PSY 2220, PSY 2231, PSY 2233**

	• **SOC 1101, SOC 2205, SOC 2211, SOC 2213, SOC 2216, SOC 2225, SOC 2235** • **WMST 1150**

General Education Elective Chart

Biological/Physical Science	• **ASTR - Astronomy** • **BIO - Biology** • **CHEM - Chemistry** • **EPS - Earth and Planetary Science** • **GEOG - Physical Geography** • **NS - Natural Science** • **PHYS - Physics**
Computer Science	• **CSCI - Computer Science**
Engineering	• **ENGR - Engineering**
English/Communication	• **ENG - English** • **COMM - Communication** • **JOUR - Journalism**
Fine Arts	• **ARTS - Art Studio** • **ARTH - Art History** • **ENG 2210** • **MUS - Music** • **THEA - Theatre**
Humanities	• **ENG - English** (Literature), (except ENG 2210) • **GNHN - General Honors** • **HIST - History** • **HUM - Humanities** • **PHIL - Philosophy** • **RLGN - Religion** • **SPAN 2280**
Modern Language	• **ARBC - Arabic** • **FREN - French**

	• **LANG - Language Topics** (Check Schedule of Classes for availability) • **PORT - Portuguese** • **SPAN - Spanish** (except SPAN 2280)
Mathematics	• **MATH - Mathematics**
Nutrition	• **NUTR - Nutrition**
Social/Behavioral Science	• **AAST - Asian American Studies** • **AFST - African American Studies** • **ANTH - Anthropology** • **CHMS - Chicano Studies** • **CST - Cultural Studies** • **ECON - Economics** • **GEOG - Geography** (except Physical Geography) • **NATV - Native American Studies** • **PSCI - Political Science** • **PSY - Psychology** • **SOC - Sociology** • **SUST - Sustainability** • **WMST - Women's Studies**

Programs of Study

Accounting

Accounting, Associate of Applied Science

School of Business & Information Technology (BIT)

Description

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 law and management. Students also study the verbal, written and teamwork skills needed for a business career.

The Bookkeeping certificate provides basic accounting skills for entry-level employment. Students also receive an introduction to business operations and to the written and verbal communication skills needed for a business career. The courses in this program may integrate into other Business & Information Technology programs. Students can take additional courses and receive a certificate or Associate of Applied Science degree in Accounting.

Career and Educational Opportunities

Most businesses, governmental and non-profit organizations employ accountants and/or bookkeepers. The U.S. Department of Labor Statistics Job Outlook Handbook predicts that both full- and part-time employment for persons with accounting education are expected to grow faster than average.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Note: The Associate of Applied Science degree transfers at least 30 technical credits and applicable arts and sciences credits towards the Career Technical Associate of Arts transfer degree. Contact the School of Business & Information Technology for more information.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

ACCT 1120 - Payroll Accounting

3 credit hour(s) (Recommended course: ACCT 1111 or ACCT 1110) (Pre- or corequisite: IT 1010)

Covers payroll accounting procedures and controls, tax and employment laws and tax reports that form the core of payroll responsibilities.

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1133 - Principles of Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Introduces the basic theory of organization and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

Term 3

ACCT 1140 - Accounting Applications

3 credit hour(s) (Prerequisites: ACCT 1109 + IT 1010 + [ACCT 1112 or ACCT 1110] or department approval) (Pre- or corequisite: ENG 1101 or BA 1121)

Simulates the complete accounting process using practice sets to expand skills in the performance of accounting functions.

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

ACCT 1410 - Quickbooks Complete

3 credit hour(s) (Recommended course: ACCT 1111)

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.
Note(s)

- Previously ACCT 1411 + ACCT 1412 + ACCT 1413
- This course must be taught in a computer lab classroom

or

ACCT 2095 - Cooperative Education

3 credit hour(s) (Prerequisites: 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.

or

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.

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

- **Human Relations Requirement 3 credit hour(s)**

Term 4

ACCT 2101 - Intermediate Accounting IA

3 credit hour(s) (Prerequisite: ACCT 1140 or department approval) (Pre- or corequisite: ENG 1101 + MATH 1210)

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 2340 - Tax Accounting

3 credit hour(s) (Prerequisite: ACCT 1110 or ACCT 1111 or ACCT 1301 + ACCT 1398 or department approval)

Covers fundamental characteristics of individual federal income taxes.

or

ACCT 1301 - Volunteer Tax Preparation

2 credit hour(s) (Recommended course: IT 1010)

Introduces basic tax return preparation issues and the software to do basic tax returns for low-income and elderly taxpayers.
Note(s)

- Offered spring term.

and

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 2420 - Computerized Accounting

3 credit hour(s) (Prerequisite: ACCT 1140 or department approval)

Employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.
Note(s)

- This course must be taught in a computer lab classroom

BA 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

Term 5

ACCT 2102 - Intermediate Accounting IB

3 credit hour(s) (Prerequisite: ACCT 2101 or department approval)

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 2230 - Cost Management Accounting

3 credit hour(s) (Prerequisites: (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 2999 - Capstone Course

1 credit hour(s) (Prerequisite: (ACCT 2101 + ACCT 2340) or (ACCT 2101 + ACCT 1301 + ACCT 1398))

Focuses on assessment of student learning outcomes for the Accounting program of study. Students graduating under catalogs prior to Fall 2011 should take this course in lieu of BA 2999.
Note(s)

- Should be taken in student's last term
- **Choice Requirement 3 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

Accounting, Associate of Applied Science 67-68 credit hour(s)

Program Approved Electives

- **ACCT courses not used elsewhere 3-4 credit hour(s)**
- **ACCT 1096-1996 or ACCT 2096-2996 - Special Topics 1-3 credit hour(s)** (maximum 3 credits allowed toward degree)

BA 1115 - Web Business

3 credit hour(s) (Recommended course: BA 1015)

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.

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.

CIS 1183 - Access Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Access software from creating basic databases, macros and advanced design tools in databases.
Note(s)

- This course is offered via distance learning only
- This course may substitute for CIS 1180, CIS 1181 and CIS 1182
- 30 theory hours
- 45 lab hours

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

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 2210 - Finance

3 credit hour(s) (Prerequisites: ACCT 1111 + ACCT 1112 + ACCT 1109 or ACCT 1110 + ACCT 1109) (Recommended course: ACCT 1210)

Presents an overview of the major concepts of finance focusing on the financial system and investments.

Accounting, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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 law and management. Students also study the verbal, written and teamwork skills needed for a business career.

The Bookkeeping certificate provides basic accounting skills for entry-level employment. Students also receive an introduction to business operations and to the written and verbal communication skills needed for a business career. The courses in this program may integrate into other Business & Information Technology programs. Students can take additional courses and receive a certificate or Associate of Applied Science degree in Accounting.

Career and Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Most businesses, governmental and non-profit organizations employ accountants and/or bookkeepers. The U.S. Department of Labor Statistics Job Outlook Handbook predicts that both full- and part-time employment for persons with accounting education are expected to grow faster than average.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Note: The Associate of Applied Science degree transfers at least 30 technical credits and applicable arts and sciences credits towards the Career Technical Associate of Arts transfer degree. Contact the School of Business & Information Technology for more information.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

ACCT 1120 - Payroll Accounting

3 credit hour(s) (Recommended course: ACCT 1111 or ACCT 1110) (Pre- or corequisite: IT 1010)

Covers payroll accounting procedures and controls, tax and employment laws and tax reports that form the core of payroll responsibilities.

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1133 - Principles of Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Introduces the basic theory of organization and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 3

ACCT 1140 - Accounting Applications

3 credit hour(s) (Prerequisites: ACCT 1109 + IT 1010 + [ACCT 1112 or ACCT 1110] or department approval) (Pre- or corequisite: ENG 1101 or BA 1121)

Simulates the complete accounting process using practice sets to expand skills in the performance of accounting functions.

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or

corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

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.

or

ACCT 2095 - Cooperative Education

3 credit hour(s) (Prerequisites: 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.

or

ACCT 1410 - Quickbooks Complete

3 credit hour(s) (Recommended course: ACCT 1111)

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.
Note(s)

- Previously ACCT 1411 + ACCT 1412 + ACCT 1413
- This course must be taught in a computer lab classroom

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

Term 4

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

ACCT 2101 - Intermediate Accounting IA

3 credit hour(s) (Prerequisite: ACCT 1140 or department approval) (Pre- or corequisite: ENG 1101 + MATH 1210)

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 2340 - Tax Accounting

3 credit hour(s) (Prerequisite: ACCT 1110 or ACCT 1111 or ACCT 1301 + ACCT 1398 or department approval)

Covers fundamental characteristics of individual federal income taxes.

or

ACCT 1301 - Volunteer Tax Preparation

2 credit hour(s) (Recommended course: IT 1010)

Introduces basic tax return preparation issues and the software to do basic tax returns for low-income and elderly taxpayers.
Note(s)

- Offered spring term.

and

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 2420 - Computerized Accounting

3 credit hour(s) (Prerequisite: ACCT 1140 or department approval)

Employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.
Note(s)

- This course must be taught in a computer lab classroom

Certificate in Accounting 49 credit hour(s)

Bookkeeping, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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 law and management. Students also study the verbal, written and teamwork skills needed for a business career.

The Bookkeeping certificate provides basic accounting skills for entry-level employment. Students also receive an introduction to business operations and to the written and verbal communication skills needed for a business career. The courses in this program may integrate into other Business & Information Technology programs. Students can take additional courses and receive a certificate or Associate of Applied Science degree in Accounting.

Career and Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Most businesses, governmental and non-profit organizations employ accountants and/or bookkeepers. The U.S. Department of Labor Statistics Job Outlook Handbook predicts that both full- and part-time employment for persons with accounting education are expected to grow faster than average.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Note: The Associate of Applied Science degree transfers at least 30 technical credits and applicable arts and sciences credits towards the Career Technical Associate of Arts transfer degree. Contact the School of Business & Information Technology for more information.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

ACCT 1120 - Payroll Accounting

3 credit hour(s) (Recommended course: ACCT 1111 or ACCT 1110) (Pre- or corequisite: IT 1010)

Covers payroll accounting procedures and controls, tax and employment laws and tax reports that form the core of payroll responsibilities.

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1133 - Principles of Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Introduces the basic theory of organization and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

or

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 3

ACCT 1140 - Accounting Applications

3 credit hour(s) (Prerequisites: ACCT 1109 + IT 1010 + [ACCT 1112 or ACCT 1110] or department approval) (Pre- or corequisite: ENG 1101 or BA 1121)

Simulates the complete accounting process using practice sets to expand skills in the performance of accounting functions.

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

ACCT 1410 - Quickbooks Complete

3 credit hour(s) (Recommended course: ACCT 1111)

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.
Note(s)

- Previously ACCT 1411 + ACCT 1412 + ACCT 1413
- This course must be taught in a computer lab classroom

or

ACCT 2095 - Cooperative Education

3 credit hour(s) (Prerequisites: 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.

or

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.

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

Certificate in Bookkeeping 36 credit hour(s)

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

School of Business & Information Technology (BIT)

Description

The Certified Public Accountant (CPA) Academic Requirements, Certificate of Completion provides 30 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. 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.

Career and Educational Opportunities

Satisfactory completion of the coursework does not guarantee passing that exam. 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.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

- **Bachelor's Degree**

- Department Approval Program

Program Requirements

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

and

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

or

ACCT 1110 - Accounting I

6 credit hour(s)

(Recommended course: RDG 0950)* (Pre- or corequisite: ACCT 1109 or MATH 1315 or higher)

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)

- ACCT 1111 + ACCT 1112 are equivalent to this course.
- Typically offered Fall and Spring term only

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

ACCT 2101 - Intermediate Accounting IA

3 credit hour(s) (Prerequisite: ACCT 1140 or department approval) (Pre- or corequisite: ENG 1101 + MATH 1210)

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 or department approval)

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 or department approval)

Completes the accounting theory framework started in ACCT 2101 and ACCT 2102 with the remaining liabilities, stockholder equity issues and special topics.

ACCT 2341 - Tax Accounting II

3 credit hour(s) (Prerequisite: ACCT 1110 or ACCT 1111 or department approval)(Recommended course: ACCT 2340)

Covers fundamental characteristics of income taxes for corporations, partnerships, sub-chapter S corporations and fiduciaries.

ACCT 2520 - Auditing

3 credit hour(s) (Prerequisite: ACCT 1210 or department approval)(Recommended course: 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.

BA 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

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

Certificate of Completion in Certified Public Accountant Academic Requirements 33-36 credit hour(s)

Program Approved Electives

ACCT 1096-1996 - Special Topics

1-6 credit hour(s) (Prerequisites: ACCT 1111 + ACCT 1112 + ACCT 1210 or department approval)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

and/or

ACCT 2096-2996 - Special Topics

1-6 credit hour(s) (Prerequisites: ACCT 1111 + ACCT 1112 + ACCT 1210 or department approval)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

ACCT 2230 - Cost Management Accounting

3 credit hour(s) (Prerequisites: (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 1301 + ACCT 1398 or department approval)

Covers fundamental characteristics of individual federal income taxes.

ACCT 2420 - Computerized Accounting

3 credit hour(s) (Prerequisite: ACCT 1140 or department approval)

Employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.
Note(s)

- This course must be taught in a computer lab classroom

ACCT 2510 - Governmental Accounting

3 credit hour(s) (Prerequisite: ACCT 1140 or ACCT 2101 or department approval)

Examines fund accounting for governmental entities.

Payroll Clerk, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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

Career and Educational Opportunities

All of the Payroll Clerk courses may also be applied toward an Associate of Applied Science degree in Accounting or an Accounting or Bookkeeping Certificate of Completion. Students enrolled in these courses may not be eligible to receive financial aid or Veterans Administration benefits.

Students should see an academic advisor to customize their educational plans.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 2 Proficiency (Recommended)
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

ACCT 1120 - Payroll Accounting

3 credit hour(s) (Recommended course: ACCT 1111 or ACCT 1110) (Pre- or corequisite: IT 1010)

Covers payroll accounting procedures and controls, tax and employment laws and tax reports that form the core of payroll responsibilities.

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

or

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Certificate of Completion in Payroll Clerk 21 credit hour(s)

Adult Basic Education (ABE) GED Program

Adult Basic Education (ABE) GED Preparation

School of Adult & General Education (SAGE)

Description

The Adult Basic Education (ABE) GED Program offers instruction to adults who are preparing for the GED test or for college classes. Students at the basic literacy level can also learn to read and write. In addition, Computer Literacy courses, study groups, and distance learning instruction are available.

Special Requirements

Students registering for GED classes are required to participate in orientation and take the TABE (Tests of

Adult Basic Education) test to determine the appropriate course level. This assessment takes approximately three hours to complete.

Students who are enrolled only in GED courses receive the same services as other CNM students (for example, library access), but are not eligible for financial aid. Also, students registering for GED classes do not follow the procedures outlined in this catalog for admission and registration. Interested students should contact the School of Adult & General Education for more information.

Career and Educational Opportunities

The GED courses help students prepare for the GED exam, higher education, job advancement, or personal fulfillment.

Core Courses

Leveled Courses

GEDM 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.

GEDM 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.

GEDM 0650 - 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.

GEDR 0250 - Basic Language Skills

0 credit hour(s) Explores basic reading/writing strategies using phonics, development of sight vocabulary and collaborative use of materials in themes relevant to students' lives.

GEDR 0450 - Basic Language Skills II

0 credit hour(s) Improves developmental phonics, dictionary skills, grammar, response to reading and self-expression.

GEDR 0650 - Basic Skills Reading

0 credit hour(s) Analyzes nonfiction and fiction to identify main idea, point of view and organizational patterns. Includes summarizing, drawing conclusions and responding to readings.

GEDW 0550 - Beginning Writing

0 credit hour(s) Covers the basics of grammar and the beginning writing process.

GEDW 0650 - Spelling and Grammar

0 credit hour(s) Reviews language mechanics, usage and spelling improvement.

Integrated Courses

GEDI 0500 - Basic Skills Integrated

0 credit hour(s) Provides comprehensive practice on basic reading, writing and math skills to help students prepare for the GED examination or improve competencies.

GEDI 0505 - Basic Skills Learning Center

0 credit hour(s) Includes individualized study and tutoring in basic skills math, reading and/or writing 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.

GEDI 0650 - Computer Literacy

0 credit hour(s) Computer Literacy provides instruction in computer skills and prepares students for the computer-based high school equivalency exam. 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.

GEDI 0900 - GED Refresher

0 credit hour(s) Covers the five GED subject areas, with a focus on GED math and essay writing skills needed to pass the GED exam.

Advanced Systems Technology

Advanced Systems Technology (AAS), Automation and Communication Concentration

School of Applied Technologies (AT)

Description

Electronics, photonics and MEMS (Micro Electro Mechanical Systems) are fundamental to the operation of most of today's products and infrastructure. CNM's Advanced Systems Technology program enables its students to succeed in all three technologies making its graduates well prepared to contribute to these high tech industries.

The Automation and Telecommunication concentration provides its students with the analog and digital theory and hands-on experience to get them started in the high tech career of industrial automation and control, and the fast growing telecommunications industry. Robotic automation, microcontroller, PLD programming and systems troubleshooting drive the hands-on experiments done in each of the courses taught in this program. The program provides the opportunity to obtain 6 Certifications in fields such as electronic assembly, PC maintenance, LabVIEW programming, and the numerous fields listed under the Electronics Technicians
Association, as well as an Associate's degree.

Electrical and electronic engineering technicians help engineers design and develop computers, communications equipment,
medical monitoring devices, navigational equipment, and other electrical and electronic equipment. They often work in product
evaluation and testing, using measuring and diagnostic devices to adjust, test, and repair equipment.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

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 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

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

MEMS 1002 - Introduction to MEMS Theory

2 credit hour(s) (Prerequisites: MATH 0940 + RDG 0950 + ENG 0950 or appropriate placement scores) (Recommended 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.

and

MEMS 1092 - Introduction to MEMS Lab

1 credit hour(s) (Prerequisites: MATH 0940 + RDG 0950 + ENG 0950 or appropriate placement scores) (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

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

Term 2

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 3

ELEC 1096-1996 - Special Topics

1-7 credit hour(s) Presents various topics.
Note(s)
all courses ending in 96 are special topics.

or

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*.

or

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

or

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.

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

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

MEMS 1101 - Plasma - RF - Vacuum Systems Theory

2 credit hour(s) (Prerequisites: 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

Term 4

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

or

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

and

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

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 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 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

Term 5

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

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 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 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

Associate of Applied Science in Advanced Systems Technology, Automation and Communication Concentration 73-74 credit hour(s)

Advanced Systems Technology (AAS), Microsystems and Laser Optics Concentration

School of Applied Technologies (AT)

Description

Electronics, photonics and MEMS (Micro Electro Mechanical Systems) are fundamental to the operation of most of today's products and infrastructure. CNM's Advanced Systems Technology program enables its students to succeed in all three technologies making its graduates well prepared to contribute to these high tech industries.

The Microsystems and Laser Optics Concentration provides its students the Laser, optics, and microsystems applications, fabrication and hands-on experiments to prepare its graduates for a successful career in contributing to high tech industry and laboratories. The program of study uses facilities containing modern equipment for testing, troubleshooting, calibrating, analyzing, designing and fabricating electronic and microsystems for processing wafers in both MEMS and SMT applications.

Microsystems lab classes are held at the University of New Mexico's Manufacturing Training and Technology Center clean room which makes use of research grade fabrication processes and tools. Micro-electromechanical systems (MEMS)-Microsystems Technology (MST), also known as Micro-Machines, are an increasingly pervasive in our daily lives. Smartphones and tablets feature an array of MEMS, from auto focusing micro cameras, pico projection, motion and tilt sensors, to touch screens, microphones and speakers. MEMS are present in automotive crash and rollover safety, navigation, fuel economy and emissions control systems. Microsystems are also found in bio chemical and medical applications including chemical sensor arrays, pace-makers, pressure sensors, cochlear and artificial retina implants, microfluidic drug delivery systems and "chem lab on a chip" diagnostic application. These systems can sense, think and actuate! Many of these microsystems require not only an understanding of device fabrication and electronics but also photonics (optics). Additional laboratory facilities provide the ability to analyze and test various materials and components such as fiber optic cabling, alignment, and applications of optics in the laser industry. Students study the laser, both as an instrument and as an integral part of a system designed for industrial application and scientific research. The laser optics classes cover topics such as laser alignment, safety and the use of lasers in electronics production, testing and maintenance - students acquire a hands-on skills and knowledge of light, geometrical and physical optics, optical components and systems.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

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 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

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

MEMS 1002 - Introduction to MEMS Theory

2 credit hour(s) (Prerequisites: MATH 0940 + RDG 0950 + ENG 0950 or appropriate placement scores) (Recommended 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.

and

MEMS 1092 - Introduction to MEMS Lab

1 credit hour(s) (Prerequisites: MATH 0940 + RDG 0950 + ENG 0950 or appropriate placement scores) (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

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

Term 2

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 3

ELEC 1096-1996 - Special Topics

1-7 credit hour(s) Presents various topics.
Note(s)
all courses ending in 96 are special topics.

or

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*.

or

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

or

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.

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

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

MEMS 1101 - Plasma - RF - Vacuum Systems Theory

2 credit hour(s) (Prerequisites: 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

Term 4

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

or

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

and

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

MEMS 2102 - Manufacturing Process Theory

2 credit hour(s) (Prerequisite: MEMS 1002 + MEMS 1092 or department approval) (Recommended 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) (Prerequisites: 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) (Prerequisites: 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

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

Term 5

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

MEMS 2015 - MEMS Manufacturing Technology Theory

3 credit hour(s) (Prerequisites: MEMS 1002 + MEMS 1092 + MEMS 2102 or department approval) (Recommended 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) (Prerequisites: 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

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

Associate of Applied Science in Advanced Systems Technology, Microsystems and Laser Optics Concentration 72-73 credit hour(s)

Alternative Teacher Licensure

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

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Special Requirements

Students must complete a separate application process for the Alternative Teacher Licensure Program.

- Alternative Teacher Licensure Program (ATLP) Application

Application requirements include:

- Submission of official transcript to CNM Records Office confirming Bachelor's degree from an accredited institution
- Passing score on New Mexico Teacher Assessment (NMTA) Basic Skills exam
- GPA of 3.0 on highest degree earned (or passing score on NMTA Content Knowledge exam)
- Ability to pass a Criminal Background Check

Career and Educational Opportunities

Employment Information

Upon successful completion of this certificate program and required state exams, candidates are eligible to apply for a Level I Provisional Teaching License. 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 $30,000. Within seven years of teaching, teachers can earn a base salary of $50,000.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Program Requirements

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 advisor for more information.

EDUC 2250 - Foundations of Education

3 credit hour(s) (Prerequisite: department approval)

Introduces educators to the historical, philosophical and social paradigms that define the modern teaching profession. Students learn to develop beliefs, goals, and strategies for their teaching practice and participate in a 25 hour school-based experience.

EDUC 2285 - Curriculum Development

3 credit hour(s) (Pre- or corequisites: EDUC 2250 or SPED 2250)

Introduces foundational theories and practices of curriculum design, assessment and evaluation. Students will

develop grade and discipline-specific units that emphasize content acquisition and conceptual learning for K-12 students. Students will analyze aspects of summative learning assessments and build performance tasks to prepare K-12 students for career and college readiness.

EDUC 2260 - Emergent Literacy PreK-Grade 3

3 credit hour(s) (Pre- or corequisite: EDUC 2285)

Focuses on the fundamentals of literacy development from birth through age eight. Emphasizes balanced methods, developmentally appropriate practice, phonemic awareness, phonics, comprehension, fluency, and vocabulary throughout the stages of literacy development. Students apply these understandings to reading instruction through methods and materials for diverse student populations.

EDUC 2262 - Intermediate Literacy: Grades 4-8

3 credit hour(s) (Prerequisite: EDUC 2260)

Focuses on the fundamentals of literacy development for children in the intermediate grades (4th-8th). Emphasizes balanced methods, phonics, comprehension, fluency, vocabulary, and content area literacy. Students apply these understandings to reading instruction though methods and materials for diverse student populations and intervention strategies for struggling readers.

EDUC 2284 - Effective Teaching Methods and Strategies

3 credit hour(s) (Prerequisite: EDUC 2250)

Demonstrates how to develop classroom procedures, routines and structures that lead to increased student learning and motivation. Explores pedagogy, methods and materials that support best practices in teaching and learning.

EDUC 2286 - Curriculum Development Assessment and Evaluation II

3 credit hour(s) (Prerequisite: EDUC 2285)

Builds on the curricular and assessment learning theories and tools from EDUC 2285 Curriculum Development. Students will focus on building curriculum and assessment for the day-to-day and week-to-week classroom. The five central curriculum and assessment aspects emphasized are 1) grade and discipline-specific learning theory, 2) lesson planning, 3) differentiating for individual student needs, 4) developing formative assessments for learning, and 5) evaluating and reporting student progress as related to specific learning goals.

EDUC 2190 - Supervised Field Experience

3 credit hour(s) (Prerequisites: department approval)

Emphasizes planning and implementing integrated programs in all areas, including math and science, in an advanced supervised fieldwork placement. Requires students to meet competencies as defined by the NM Public Education Department through a minimum of 160 contract hours in an approved educational setting. Entails a separate application process.
Note(s)

- Typically offered Fall and Spring term only.

Post Degree Certificate of Completion in Alternative Teacher Licensure Elementary Education Concentration
21 credit hour(s)

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

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Special Requirements

Students must complete a separate application process for the Alternative Teacher Licensure Program.

- Alternative Teacher Licensure Program (ATLP) Application

Application requirements include:

- Submission of official transcript to CNM Records Office confirming Bachelor's degree from an accredited institution
- Passing score on New Mexico Teacher Assessment (NMTA) Basic Skills exam
- GPA of 3.0 on highest degree earned (or passing score on NMTA Content Knowledge exam)
- Ability to pass a Criminal Background Check

Career and Educational Opportunities

Employment Information

Upon successful completion of this certificate program and required state exams, candidates are eligible to apply for a Level I Provisional Teaching License. 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 $30,000. Within seven years of teaching, teachers can earn a base salary of $50,000.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Program Requirements

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 advisor for more information.

EDUC 2250 - Foundations of Education

3 credit hour(s) (Prerequisite: department approval)

Introduces educators to the historical, philosophical and social paradigms that define the modern teaching profession. Students learn to develop beliefs, goals, and strategies for their teaching practice and participate in a 25 hour school-based experience.

EDUC 2285 - Curriculum Development

3 credit hour(s) (Pre- or corequisites: EDUC 2250 or SPED 2250)

Introduces foundational theories and practices of curriculum design, assessment and evaluation. Students will develop grade and discipline-specific units that emphasize content acquisition and conceptual learning for K-12 students. Students will analyze aspects of summative learning assessments and build performance tasks to prepare K-12 students for career and college readiness.

EDUC 2264 - Reading and Writing across the Curriculum in Secondary Education

3 credit hour(s) (Pre- or corequisite: EDUC 2285)

Provides an overview of literacy and language development and focuses on the development and implementation of an integrated curriculum approach that emphasizes the importance of reading and writing within the curriculum and across content areas. Students will explore and practice alternative reading assessments (i.e., miscue analysis, rubrics, checklists, anecdotal records, portfolios and reading logs/journals). Requires some field experience.

EDUC 2284 - Effective Teaching Methods and Strategies

3 credit hour(s) (Prerequisite: EDUC 2250)

Demonstrates how to develop classroom procedures, routines and structures that lead to increased student learning and motivation. Explores pedagogy, methods and materials that support best practices in teaching and learning.

EDUC 2286 - Curriculum Development Assessment and Evaluation II

3 credit hour(s) (Prerequisite: EDUC 2285)

Builds on the curricular and assessment learning theories and tools from EDUC 2285 Curriculum Development. Students will focus on building curriculum and assessment for the day-to-day and week-to-week classroom. The five central curriculum and assessment aspects emphasized are 1) grade and discipline-specific learning theory, 2) lesson planning, 3) differentiating for individual student needs, 4) developing formative assessments for learning, and 5) evaluating and reporting student progress as related to specific learning goals.

EDUC 2190 - Supervised Field Experience

3 credit hour(s) (Prerequisites: department approval)

Emphasizes planning and implementing integrated programs in all areas, including math and science, in an advanced supervised fieldwork placement. Requires students to meet competencies as defined by the NM Public Education Department through a minimum of 160 contract hours in an approved educational setting. Entails a separate application process.
Note(s)

- Typically offered Fall and Spring term only.

Alternative Teacher Licensure, Certificate of Completion in Secondary Education 18 credit hour(s)

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

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Special Requirements

Students must complete a separate application process for the Alternative Teacher Licensure Program.

- Alternative Teacher Licensure Program (ATLP) Application

Application requirements include:

- Submission of official transcript to CNM Records Office confirming Bachelor's degree from an accredited institution
- Passing score on New Mexico Teacher Assessment (NMTA) Basic Skills exam
- GPA of 3.0 on highest degree earned (or passing score on NMTA Content Knowledge exam)
- Ability to pass a Criminal Background Check

Career and Educational Opportunities

Employment Information

Upon successful completion of this certificate program and required state exams, candidates are eligible to apply for a Level I Provisional Teaching License. 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 $30,000. Within seven years of teaching, teachers can earn a base salary of $50,000.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Program Requirements

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 advisor for more information.

SPED 2250 - Exceptionalities and Placement

3 credit hour(s) (Prerequisites: Acceptance into the alternative licensure program)

Focuses on the meanings and concepts associated with learning disabilities and the divergent characteristics and needs of individuals with these disabilities and the implications of these in all learning areas including mathematics and science. Builds a thorough understanding of the different exceptionalities and the developmental stages of children to effectively design programs, placements and transitions. Special emphasis will be placed on identifying various service delivery models related to least restrictive environments. Requires a field experience as part of the course.

SPED 2258 - Classroom and Behavior Management for Students with Special Needs

3 credit hour(s) (Prerequisite: SPED 2250)

Promotes the concept of positive behavior supports and environmental management of behavior. Explores the basic procedures for organizing and managing a classroom and addresses specific 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.

EDUC 2285 - Curriculum Development

3 credit hour(s) (Pre- or corequisites: EDUC 2250 or SPED 2250)

Introduces foundational theories and practices of curriculum design, assessment and evaluation. Students will develop grade and discipline-specific units that emphasize content acquisition and conceptual learning for K-12 students. Students will analyze aspects of summative learning assessments and build performance tasks to prepare K-12 students for career and college readiness.

EDUC 2260 - Emergent Literacy PreK-Grade 3

3 credit hour(s) (Pre- or corequisite: EDUC 2285)

Focuses on the fundamentals of literacy development from birth through age eight. Emphasizes balanced methods, developmentally appropriate practice, phonemic awareness, phonics, comprehension, fluency, and vocabulary throughout the stages of literacy development. Students apply these understandings to reading instruction through methods and materials for diverse student populations.

SPED 2260 - Methods and Materials for Special Education

3 credit hour(s)

(Prerequisite: EDUC 2285)

Emphasizes embedding appropriate teaching strategies and materials in instructional design and delivery, including classroom-based assessment and data collection for monitoring progress toward IEP goals, for students receiving special education services. Focuses on designing instruction based on student strengths, integrating opportunities for addressing IEP goals within content area lessons, intervention at the point of breakdown, task analysis and specific instructional materials that support student learning. Teachers will develop evaluation tools for formative learning tasks.
Note(s)

- Typically offered Fall and Summer term only.

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, decoding, strategies, phonemic awareness and vocabulary acquisition. Field experience is required as part of this course.

SPED 2390 - Special Education Supervised Field Experience

3 credit hour(s) (Prerequisite: department approval)

This course is an advanced supervised fieldwork experience with additional emphasis on collaboration and inclusion. Students are required to meet competencies as defined by the NM Public Education Department through a minimum of 160 contact hours in an approved special education setting. Students will also examine strategies for effective collaboration with parents, colleagues and administrators.
Note(s)

- Enrollment in this course requires an applications process.
- 160 contact hours

Alternative Teacher Licensure, Certificate of Completion in Special Education 21 credit hour(s)

Anthropology

Anthropology, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Educational Option Information

This educational option is a

- Associate of Arts Degree.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Meeting the requirements for an Associate of Arts in Anthropology from CNM and prepare a student to obtain a Bachelor of Arts in Anthropology at the University of New Mexico.

This educational option can be started

- Any term.

Primary course location

- Any CNM Campus.

Special Requirements

Students are expected to purchase textbooks and personal safety equipment for Archeology lab.

Cost and Financial Aid

This program is eligible for Financial Aid.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

An Associate Degree is an important milestone for students pursuing either a baccalaureate degree or a graduate degree in the field. Core requirements for the baccalaureate are met through completion of the CNM Associate of Arts degree.

Students planning to transfer to UNM should keep in mind that the UNM Anthropology program offers four concentrations of study: Archaeology, Evolutionary Anthropology, Ethnology, and Linguistic Anthropology. Refer to the Student Handbook from the UNM Department of Anthropology. 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.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Modern Language Elective 4 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)** (1000-level)

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)** (1000 or 2000 level)

Term 4

- **Fine Arts Requirement 3 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)** (1000 or 2000 level)
- **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 hour(s)

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

1000 - Level Anthropology Courses

ANTH 1110 - Language Culture and the Human Animal

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950)

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) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

2000 - Level Anthropology Courses

ANTH 2096-2996 - Special Topics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

ANTH 2290 - Anthropology Practicum

Variable credit hour(s) (Prequisite: 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.

ANTH 2222 - Ancient Mesoamerica

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores. Recommended Prerequisite: 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).

ANTH 2255 - Southwestern Archaeology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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.

Apprenticeships

Commercial Carpentry Apprenticeship

School of Applied Technologies (AT)

Description

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)

Description

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 (IEC) Association, 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)

Description

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)

Description

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)

Description

The Iron Woker 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)

Description

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)

Description

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)

Description

The program integrates mathematics and blueprint reading into the technical courses at all levels. Computer applications are emphasized throughout the program. The curriculum includes the principles of architectural and engineering graphics and the theory and practice of construction technology. To prepare students for work in the construction industry, the development and use of communication, teamwork and problem-solving skills are incorporated throughout the program.

Career and Educational Opportunities

ducational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Graduates are prepared for entry-level jobs such as architectural or engineering drafting technicians in residential and commercial construction and in sales and drafting positions with contractors, fabricators and suppliers. The Architectural/Engineering Drafting Technology, Certificate of Completion is also conducive to those seeking professional and technical upgrading in the design profession.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Term 1

ARDR 1010 - CAD Analysis I

2 credit hour(s) (Prerequisite: CAD 1001)

Applies the usage of CAD to Architectural/Engineering drafting.

ARDR 1101 - Building Materials and Methods I

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Studies construction materials and methods with an emphsis 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 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

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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) (Prerequisites: ARDR 1010 + ARDR 1101) (Pre- or corequisite: ARDR 1115)

Continues ARDR 1101 studying construction materials and methods with an emphsis 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 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

or

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 intrustions, contours and grading, drainage and follage. Introduces planning aspects of site size.
Note(s)

- 15 theory hours
- 60 lab hours

or

- **Program Approved Elective 2-3 credit hour(s)**

ARTH 2260 - Architectural History: Ancient through Modern

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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.

or

ARTS 1102 - Introduction to Studio Arts

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

ARTS 1106 - Drawing I

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

ARTS 1121 - Two-Dimensional Design

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

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) (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

or

- **Program Approved Elective 2-3 credit hour(s)**

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 4

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

- **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 classes.

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 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)

- 30 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

Associate of Applied Science in Architectural/Engineering Drafting Technology 66-69 credit hour(s)

Program Approved Electives

ARDR 1110 - Architectural Mathematics

3 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) or (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 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 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 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

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 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

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.

Architectural/Engineering Drafting Technology, Certificate of Completion

School of Applied Technologies (AT)

Description

The program integrates mathematics and blueprint reading into the technical courses at all levels. Computer applications are emphasized throughout the program. The curriculum includes the principles of architectural and engineering graphics and the theory and practice of construction technology. To prepare students for work in the construction industry, the development and use of communication, teamwork and problem-solving skills are incorporated throughout the program.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Graduates are prepared for entry-level jobs such as architectural or engineering drafting technicians in residential and commercial construction and in sales and drafting positions with contractors, fabricators and suppliers. The Architectural/Engineering Drafting Technology, Certificate of Completion is also conducive to those seeking professional and technical upgrading in the design profession.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Term 1

ARDR 1010 - CAD Analysis I

2 credit hour(s) (Prerequisite: CAD 1001)

Applies the usage of CAD to Architectural/Engineering drafting.

ARDR 1101 - Building Materials and Methods I

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Studies construction materials and methods with an emphsis 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 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

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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) (Prerequisites: ARDR 1010 + ARDR 1101) (Pre- or corequisite: ARDR 1115)

Continues ARDR 1101 studying construction materials and methods with an emphsis 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 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

or

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 intrustions, contours and grading, drainage and follage. Introduces planning aspects of site size.
Note(s)

- 15 theory hours
- 60 lab hours

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) (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

or

- **Program Approved Elective 2-3 credit hour(s)**

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

Architectural/Engineering Drafting Technology, Certificate of Completion 35-37 credit hour(s)

Program Approved Electives

ARDR 1110 - Architectural Mathematics

3 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) or (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 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 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 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

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 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

Automotive Technology

Automotive Service Fundamentals, Certificate of Achievement

School of Applied Technologies (AT)

Description

Students who earn certificates in their chosen concentration are encouraged to earn an Associate's 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's 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.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Career opportunities exist in government, independent repair facilities and dealerships for all aspects of the industry including line technician, field service technician, service writer, service manager, warranty and parts specialist and overhaul specialist. The national shortage of technicians in the both the automotive and the diesel truck and heavy equipment fields ensures plentiful employment opportunities with excellent pay and benefits.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

AUTC 1110 - Introduction to Automotive Systems

4 credit hour(s) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 or appropriate placement scores or department approval)

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 corequisites: 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 corequisites: 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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 or appropriate placement scores or department approval)

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

Certificate in Automotive Service Fundamentals 14 credit hour(s)

Automotive Technology, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Special Requirements

Students are required to purchase textbooks, tools and personal safety equipment. One must not be allergic to fuels, oils and chemicals used in industry. Most employers require a valid driver's license and a good driving record.

Career and Educational Opportunities

Educational Opportunities

Students are encouraged to pursue the Transportation Technology program.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

There is a local and national shortage of automotive technicians. Students who earn this certificate can find jobs in automotive dealerships and independent repair facilities that perform all phases of automotive service and repair.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

AUTC 1110 - Introduction to Automotive Systems

4 credit hour(s) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 or appropriate placement scores or department approval)

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 corequisites: 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 corequisites: 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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 or appropriate placement scores or department approval)

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

Term 2

AUTC 1210 - Manual Transmissions

3 credit hour(s) (Pre- or corequisites: 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) (Prerequisites: AUTC 1110) (Pre- or corequisites: 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) (Prerequisites: AUTC 1110) (Pre- or corequisites: 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

Term 3

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 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

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

Transportation Technology (AAS), Automotive Technology Concentration

School of Applied Technologies (AT)

Description

Students who earn certificates in their chosen concentration are encouraged to earn an Associate's 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's 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.

Career and Educational Opportunities

Career opportunities exist in government, independent repair facilities and dealerships for all aspects of the industry including line technician, field service technician, service writer, service manager, warranty and parts specialist and overhaul specialist. The national shortage of technicians in the both the automotive and the diesel truck and heavy equipment fields ensures plentiful employment opportunities with excellent pay and benefits. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

AUTC 1110 - Introduction to Automotive Systems

4 credit hour(s) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 or appropriate placement scores or department approval)

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 corequisites: 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 corequisites: 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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 or appropriate placement scores or department approval)

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

Term 2

AUTC 1210 - Manual Transmissions

3 credit hour(s) (Pre- or corequisites: 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) (Prerequisites: AUTC 1110) (Pre- or corequisites: 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) (Prerequisites: AUTC 1110) (Pre- or corequisites: 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

Term 3

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 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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 4

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

TRDR 1420 - Class B Theory and Operational Practices

9 credit hour(s) (Prerequisite: MATH 0750 + RDG 0750)

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)

- Valid NM Driver's License
- Held a valid driver's license for at least 3 years (some exceptions allowed, contact department)
- Be able to present a valid birth certificate or proof of citizenship
- Be able to present a valid social security card
- No more than 4 moving traffic violations in the last 3 years
- No conviction of or forfeiture of bond for reckless driving
- No more than one at fault preventable accident in the last 3 years
- No DUI/DWI in the last five (5) years
- No more than one (1) DUI/DWI in the last five (5) years
- No more than two (2) DUI/DWI in a lifetime
- Must be a US Citizen or Lawful Permanent Resident

or

AUTC 2250 - Transportation Alternative Fuels

2 credit hour(s) (Prerequisite: RDG 0750 + MATH 0750)

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

and

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.

and

WELD 1062 - Welding Fundamentals

3 credit hour(s) (Recommended prerequisite: AUTC 1240 + DETC 1240 + MATT 1240 + PLMB 1235)

Designed for non-Welding majors, 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.
Note(s)

- 135 lab hours

Term 5

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

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

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities/Fine Arts Requirement 3 credit hour(s)**

- **or**

- **Social/Behavioral Science Requirement 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 hour(s)

Program Approved Elective

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.

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

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*.

Aviation Technology

Airframe Maintenance Technician, Certificate of Completion

This program is currently undergoing curriculum redesign and will not be accepting new students until further notice. Please contact the School of Applied Technologies for more information.

School of Applied Technologies (AT)

Program Description

The maintenance technician degree and certificates prepare students for licensure as Federal Aviation Administration (FAA) certified airframe and power plant (A&P) 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, airframe and power plant subject areas. (The programs are pending FAA approval).

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.

Special Requirements

Students wishing to enroll in the AVMT programs must complete an application before being considered for acceptance into the program.

Contact Information

Program information is available from the **School of Applied Technologies**

Recommended Sequence of Courses

Program Proficiencies and Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

AVMT 1240 - Aviation Science

4 credit hour(s) (Recommended Prerequisites: ENG 0950 + RDG 0950 + MATH 0940 or appropriate placement scores) (Corequisite: AVMT 1261 + AVMT 1271 or departmental approval)

Provides overview of technician's privileges and limitations. Includes familiarization with FAA forms and records. Presents mathematical computations of fundamental electrical circuit parameters Includes drawing symbols and schematic diagrams.
Note(s)

- 60 theory hours
- 38 lab hours

AVMT 1261 - Basic Electricity

4 credit hour(s) (Corequisite: AVMT 1240 + AVMT 1271 or department approval)

Includes basic definitions, laws and conepts for A/C and D/C electrical theory. Includes schematic, wiring and parts placement diagrams. The student will test and troubleshoot electrical and electronic components and circuits.
Note(s)

- 30 theory hours
- 105 lab hours

AVMT 1271 - Aviation Maintenance Practices

3 credit hour(s) (Corequisite: AVMT 1240 + AVMT 1261 or departmental approval)

Presents materials and processes as they relate to aircraft materials ad tool usage. Also provides an understanding of aircraft weight and balance and its integration into the maintenance function
Note(s)

- 45 theory hours
- 33 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

AVMT 1280 - Aviation Services

4 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 or departmental approval, Recommended prerequisites: ENG 0950 + RDG 0950 + MATH 0940 or appropriate placement scores) (Pre- or corequisite: AVMT 2220 + AVMT 2225 or department approval)

Provides basic concepts of motion, fluid dynamics, heat and sound, aerodynamics, aircraft structure and theory of flight. Includes fluid lines and fittings, component identification, function, inspection and installation. Presents cleaning and corrosion control non-destructive testing and precision measurement techniques. Performs aircraft ground operations and fuel servicing techniques.
Note(s)

- 60 theory hours
- 36 lab hours

AVMT 2220 - Non-Metallic Structures

4 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 or department approval) (Pre- or corequisite: AVMT 1280 + AVMT 2225 or department approval)

Presents theories and techniques of aircraft wood structures. Presents inspection, test and repair of aircraft fabric and wood structures. Aircraft structural design and methods of working with selected materials. Characteristics of composites, inspections and repairs.
Note(s)

- 45 theory hours
- 72 lab hours

AVMT 2225 - Aircraft Support Systems

5 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 or department approval) (Pre- or corequisite: AVMT 1280 + AVMT 2220 or department approval)

Presents operation and maintenance of aircraft auxiliary systems, inspection, servicing, troubleshooting and repair of environmental control, ice and rain control, fire protection and warning systems.
Note(s)

- 75 theory hours
- 15 lab hours

Term 3

AVMT 2230 - Metallic Structures

5 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents inspection, fabrication and repair techniques of aircraft structural and nonstructural components and sheet metal heat-treating techniques.
Note(s)

- 45 theory hours
- 94 lab hours

AVMT 2236 - Landing Gear Systems

4 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents identification, inspection, repair and troubleshooting techniques of aircraft landing gear hydraulic, fuel, pneumatic systems.
Note(s)

- 60 theory hours
- 40 lab hours

AVMT 2240 - Aircraft Electrical Systems

3 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents proper operation, inspection, servicing and troubleshooting of DC (Direct Current) generator, DC alternator, AC (Alternating Current) alternator, voltage regulator, reverse current relay, generator and alternator protection devices. Also includes solenoids and relays.
Note(s)

- 45 theory hours
- 41 lab hours

MATH 1210 - Methods of Problem Solving

4 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores)

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).

Term 4

AVMT 2243 - Aircraft Electronic Systems

5 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents communications, instigationnformation display systems, transmitters and receiver fundamentals.

Includes avionics installation, inspection and testing. Also includes the identification, inspection and testing of position and warning system components. Includes mechanical and electrical sensing devices.
Note(s)

- 75 theory hours
- 33 lab hours

AVMT 2245 - Flight Control Systems

5 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents aircraft assembly and rigging, flight control balancing and rigging. Aircraft welding techniques, theory and materials identification. Also includes airframe inspection.
Note(s)

- 60 theory hours
- 74 lab hours

AVMT 2496 - Airframe Inspection, Test and Review

2 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 + AVMT 2220 +AVMT 2225 + AVMT 2230 + AVMT 2236 AVMT 2240) (Pre- or corequisite: AVMT 2243 + AVMT 2245)

Presents aircraft airframe inspection techniques and reporting procedures. Also presents log book record keeping skills. This course includes program review information to assist in the passing of the final exam. Also allows extra course time to satisfy FAA time rules.
Note(s)
Note(s)

- 90 lab hours

Certificate of Completion in Airframe Maintenance Technician 55 credit hour(s)

Aviation Maintenance Technology, Associate of Applied Science

This program is currently undergoing curriculum redesign and will not be accepting new students until further notice. Please contact the School of Applied Technologies for more information.

School of Applied Technologies (AT)

Program Description

The maintenance technician degree and certificates prepare students for licensure as Federal Aviation Administration (FAA) certified airframe and power plant (A&P) 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, airframe and power plant subject areas. (The programs are pending FAA approval).

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.

Special Requirements

Students wishing to enroll in the AVMT programs must complete an application before being considered for acceptance into the program.

Contact Information

Program information is available from the **School of Applied Technologies**

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Term 1

AVMT 1240 - Aviation Science

4 credit hour(s) (Recommended Prerequisites: ENG 0950 + RDG 0950 + MATH 0940 or appropriate placement scores) (Corequisite: AVMT 1261 + AVMT 1271 or departmental approval)

Provides overview of technician's privileges and limitations. Includes familiarization with FAA forms and records. Presents mathematical computations of fundamental electrical circuit parameters Includes drawing symbols and schematic diagrams.
Note(s)

- 60 theory hours
- 38 lab hours

AVMT 1261 - Basic Electricity

4 credit hour(s) (Corequisite: AVMT 1240 + AVMT 1271 or department approval)

Includes basic definitions, laws and conepts for A/C and D/C electrical theory. Includes schematic, wiring and parts placement diagrams. The student will test and troubleshoot electrical and electronic components and circuits.
Note(s)

- 30 theory hours
- 105 lab hours

AVMT 1271 - Aviation Maintenance Practices

3 credit hour(s) (Corequisite: AVMT 1240 + AVMT 1261 or departmental approval)

Presents materials and processes as they relate to aircraft materials ad tool usage. Also provides an understanding of aircraft weight and balance and its integration into the maintenance function
Note(s)

- 45 theory hours
- 33 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

AVMT 1280 - Aviation Services

4 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 or departmental approval, Recommended prerequisites: ENG 0950 + RDG 0950 + MATH 0940 or appropriate placement scores) (Pre- or corequisite: AVMT 2220 + AVMT 2225 or department approval)

Provides basic concepts of motion, fluid dynamics, heat and sound, aerodynamics, aircraft structure and theory of flight. Includes fluid lines and fittings, component identification, function, inspection and installation. Presents cleaning and corrosion control non-destructive testing and precision measurement techniques. Performs aircraft ground operations and fuel servicing techniques.
Note(s)

- 60 theory hours
- 36 lab hours

AVMT 2220 - Non-Metallic Structures

4 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 or department approval) (Pre- or corequisite: AVMT 1280 + AVMT 2225 or department approval)

Presents theories and techniques of aircraft wood structures. Presents inspection, test and repair of aircraft fabric and wood structures. Aircraft structural design and methods of working with selected materials. Characteristics of composites, inspections and repairs.
Note(s)

- 45 theory hours
- 72 lab hours

AVMT 2225 - Aircraft Support Systems

5 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 or department approval) (Pre- or corequisite: AVMT 1280 + AVMT 2220 or department approval)

Presents operation and maintenance of aircraft auxiliary systems, inspection, servicing, troubleshooting and repair of environmental control, ice and rain control, fire protection and warning systems.
Note(s)

- 75 theory hours
- 15 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

Term 3

- AAS MATH Requirement **3-4 credit hours**

AVMT 2230 - Metallic Structures

5 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents inspection, fabrication and repair techniques of aircraft structural and nonstructural components and sheet metal heat-treating techniques.
Note(s)

- 45 theory hours
- 94 lab hours

AVMT 2236 - Landing Gear Systems

4 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents identification, inspection, repair and troubleshooting techniques of aircraft landing gear hydraulic, fuel, pneumatic systems.
Note(s)

- 60 theory hours
- 40 lab hours

AVMT 2240 - Aircraft Electrical Systems

3 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents proper operation, inspection, servicing and troubleshooting of DC (Direct Current) generator, DC alternator, AC (Alternating Current) alternator, voltage regulator, reverse current relay, generator and alternator protection devices. Also includes solenoids and relays.
Note(s)

- 45 theory hours
- 41 lab hours

Term 4

AVMT 2243 - Aircraft Electronic Systems

5 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents communications, instigationnformation display systems, transmitters and receiver fundamentals. Includes avionics installation, inspection and testing. Also includes the identification, inspection and testing of position and warning system components. Includes mechanical and electrical sensing devices.
Note(s)

- 75 theory hours
- 33 lab hours

AVMT 2245 - Flight Control Systems

5 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents aircraft assembly and rigging, flight control balancing and rigging. Aircraft welding techniques, theory and materials identification. Also includes airframe inspection.
Note(s)

- 60 theory hours
- 74 lab hours

AVMT 2496 - Airframe Inspection, Test and Review

2 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 + AVMT 2220 +AVMT 2225 + AVMT 2230 + AVMT 2236 AVMT 2240) (Pre- or corequisite: AVMT 2243 + AVMT 2245)

Presents aircraft airframe inspection techniques and reporting procedures. Also presents log book record keeping skills. This course includes program review information to assist in the passing of the final exam. Also allows extra course time to satisfy FAA time rules.
Note(s)
Note(s)

- 90 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).

Note(s)

- This course will be taught in a computer lab.

Term 5

AVMT 2250 - Reciprocating Engines

4 credit hour(s) (Pre- or corequisite: AVMT 1280 or department approval)

Presents historical development and application of reciprocating engines. Includes the theory of internal combustion, design and environmental factors, which influence propulsion. Covers reciprocating engine troubleshooting, inspection, service, repair and overhaul. Covers operational characteristics and engine test techniques on the aircraft and in test cells.

AVMT 2392 - Reciprocating Engines Lab

4 credit hour(s) (Prerequisite: AVMT 1280 or department approval) (Pre- or corequisite: AVMT 2260)

Applies the practical application of the tear down, inspection and rebuild of aircraft reciprocating engines. Also includes troubleshooting, inspection, service, repair and overhaul procedures.
Note(s)
Note(s)

- 135 lab hours

AVMT 2260 - Aircraft Turbine Engines I

6 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1260 + AVMT 1270 + AVMT 1280 or department approval) (Pre- or corequisite: AVMT 2262)

Presents historical development and application of turbine engines along with the theory of thrust. Includes the design and environmental factors which influences thrust. Turbine engine troubleshooting, inspection, service, repair and overhaul. Operational characteristics and engine test techniques on the aircraft and in test cells.

Term 6

AVMT 2262 - Turbine Engines 2

4 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval) (Pre or corequisite: AVMT 2260)

Presents the tear down, inspection and rebuilding of an aircraft turbine engines. Also includes troubleshooting, inspection, service, repair and overhaul procedures. Included in this course are the operation, inspection and maintenance of induction, lubrication and engine fire protection systems.

AVMT 2265 - Engine Fuel and Metering Systems

6 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 AVMT 1280) (Corequisites: AVMT 2262 + AVMT 2270

Presents inspection, servicing, troubleshooting, overhaul and repair of aircraft fuel systems and components, fuel metering devices, injection systems, turbochargers and superchargers. Induction system principles of operation and design.
Note(s)

- Previously AVMT 266
- Program Fee: $100

AVMT 2270 - Engine Electrical Systems

4 credit hour(s) (Prerequisites AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents the inspection, service, troubleshooting, overhaul and repair of engine electrical systems and components.
Note(s)

- 45 theory hours
- 45 lab hours

Term 7

AVMT 2275 - Engine Instruments, Cooling

5 credit hour(s) Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280)

Presents operation, maintenance, servicing, inspection, repair and troubleshooting of engine instruments, engine lubrication, cooling and exhaust systems. Also included is the theory of operation, maintenance, inspection, service, repair and troubleshooting of ignition and starting systems used in reciprocating and turbine engines.
Note(s)
Note(s)

- 60 theory hours
- 45 lab hours

AVMT 2280 - Propeller Systems, Engine Inspections and Test and Review

5 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 + AVMT 2250 + AVMT 2392 + AVMT 2260 AVMT 2262 + AVMT 2265) (Pre- or corequisites: AVMT 2270 + department approval)

Discusses the historical development, operation, disassembly, inspection, repair and maintenance of propellers. Also presents aircraft engine inspection techniques and reporting procedures. Presents log book record keeping skills. This course includes program review information to assist in the preparation for the final exam. Also allows extra course time to satisfy FAA time rules.
Note(s)

- 60 theory hours
- 45 lab hours

- Choice Requirements

Credits / Units: 3

Associate of Applied Science in Aviation Maintenance Technology 101-102 credit hour(s)

Powerplant Maintenance Technician, Certificate of Completion

This program is currently undergoing curriculum redesign and will not be accepting new students until further notice. Please contact the School of Applied Technologies for more information.

School of Applied Technologies (AT)

Program Description

The maintenance technician degree and certificates prepare students for licensure as Federal Aviation Administration (FAA) certified airframe and power plant (A&P) 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, airframe and power plant subject areas. (The programs are pending FAA approval).

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.

Special Requirements

Students wishing to enroll in the AVMT programs must complete an application before being considered for acceptance into the program.

Contact Information

Program information is available from the **School of Applied Technologies**

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

AVMT 1240 - Aviation Science

4 credit hour(s) (Recommended Prerequisites: ENG 0950 + RDG 0950 + MATH 0940 or appropriate placement scores) (Corequisite: AVMT 1261 + AVMT 1271 or departmental approval)

Provides overview of technician's privileges and limitations. Includes familiarization with FAA forms and records. Presents mathematical computations of fundamental electrical circuit parameters Includes drawing symbols and schematic diagrams.
Note(s)

- 60 theory hours
- 38 lab hours

AVMT 1261 - Basic Electricity

4 credit hour(s) (Corequisite: AVMT 1240 + AVMT 1271 or department approval)

Includes basic definitions, laws and conepts for A/C and D/C electrical theory. Includes schematic, wiring and parts placement diagrams. The student will test and troubleshoot electrical and electronic components and circuits.
Note(s)

- 30 theory hours
- 105 lab hours

AVMT 1271 - Aviation Maintenance Practices

3 credit hour(s) (Corequisite: AVMT 1240 + AVMT 1261 or departmental approval)

Presents materials and processes as they relate to aircraft materials ad tool usage. Also provides an understanding of aircraft weight and balance and its integration into the maintenance function
Note(s)

- 45 theory hours
- 33 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

AVMT 1280 - Aviation Services

4 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 or departmental approval, Recommended prerequisites: ENG 0950 + RDG 0950 + MATH 0940 or appropriate placement scores) (Pre- or corequisite: AVMT 2220 + AVMT 2225 or department approval)

Provides basic concepts of motion, fluid dynamics, heat and sound, aerodynamics, aircraft structure and theory of flight. Includes fluid lines and fittings, component identification, function, inspection and installation. Presents cleaning and corrosion control non-destructive testing and precision measurement techniques. Performs aircraft ground operations and fuel servicing techniques.
Note(s)

- 60 theory hours
- 36 lab hours

AVMT 2250 - Reciprocating Engines

4 credit hour(s) (Pre- or corequisite: AVMT 1280 or department approval)

Presents historical development and application of reciprocating engines. Includes the theory of internal combustion, design and environmental factors, which influence propulsion. Covers reciprocating engine troubleshooting, inspection, service, repair and overhaul. Covers operational characteristics and engine test techniques on the aircraft and in test cells.

AVMT 2392 - Reciprocating Engines Lab

4 credit hour(s) (Prerequisite: AVMT 1280 or department approval) (Pre- or corequisite: AVMT 2260)

Applies the practical application of the tear down, inspection and rebuild of aircraft reciprocating engines. Also includes troubleshooting, inspection, service, repair and overhaul procedures.
Note(s)
Note(s)

- 135 lab hours

AVMT 2260 - Aircraft Turbine Engines I

6 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1260 + AVMT 1270 + AVMT 1280 or department approval) (Pre- or corequisite: AVMT 2262)

Presents historical development and application of turbine engines along with the theory of thrust. Includes the design and environmental factors which influences thrust. Turbine engine troubleshooting, inspection, service, repair and overhaul. Operational characteristics and engine test techniques on the aircraft and in test cells.

Term 3

AVMT 2262 - Turbine Engines 2

4 credit hour(s) (Prerequisite: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval) (Pre or corequisite: AVMT 2260)

Presents the tear down, inspection and rebuilding of an aircraft turbine engines. Also includes troubleshooting, inspection, service, repair and overhaul procedures. Included in this course are the

operation, inspection and maintenance of induction, lubrication and engine fire protection systems.

AVMT 2265 - Engine Fuel and Metering Systems

6 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 AVMT 1280) (Corequisites: AVMT 2262 + AVMT 2270

Presents inspection, servicing, troubleshooting, overhaul and repair of aircraft fuel systems and components, fuel metering devices, injection systems, turbochargers and superchargers. Induction system principles of operation and design.
Note(s)

- Previously AVMT 266
- Program Fee: $100

AVMT 2270 - Engine Electrical Systems

4 credit hour(s) (Prerequisites AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 or department approval)

Presents the inspection, service, troubleshooting, overhaul and repair of engine electrical systems and components.
Note(s)

- 45 theory hours
- 45 lab hours

Term 4

AVMT 2275 - Engine Instruments, Cooling

5 credit hour(s) Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280)

Presents operation, maintenance, servicing, inspection, repair and troubleshooting of engine instruments, engine lubrication, cooling and exhaust systems. Also included is the theory of operation, maintenance, inspection, service, repair and troubleshooting of ignition and starting systems used in reciprocating and turbine engines.
Note(s)
Note(s)

- 60 theory hours
- 45 lab hours

AVMT 2280 - Propeller Systems, Engine Inspections and Test and Review

5 credit hour(s) (Prerequisites: AVMT 1240 + AVMT 1261 + AVMT 1271 + AVMT 1280 + AVMT 2250 + AVMT 2392 + AVMT 2260 AVMT 2262 + AVMT 2265) (Pre- or corequisites: AVMT 2270 + department approval)

Discusses the historical development, operation, disassembly, inspection, repair and maintenance of propellers. Also presents aircraft engine inspection techniques and reporting procedures. Presents log book record keeping skills. This course includes program review information to assist in the preparation for the

final exam. Also allows extra course time to satisfy FAA time rules.
Note(s)

- 60 theory hours
- 45 lab hours

MATH 1210 - Methods of Problem Solving

4 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores)

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).

Certificate of Completion in Powerplant Maintenance Technician 60 credit hour(s)

Baking

Baking, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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 Foundation Accrediting Commission (ACFFAC). 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. Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

Special Requirements

Students are required to purchase chef's uniforms, textbooks, and tools. Students should be able to lift 30 pounds and must present a physician's certificate to CNM at the start of classes stating that the student is free from tuberculosis in a transmissible form. Students must be able to stand for the duration of the laboratory class.

Career and Educational Opportunities

Jobs are available in restaurants, resorts, schools, retirement homes, hospitals, cruise ships, catering companies, convention centers and bakeries

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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 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 1103 - Safety and Sanitation Principles

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

CULN 1130 - Introduction to Baking Fundamentals

5 credit hour(s) (Prerequisites: CULN 1100 + CULN 1103 + CULN 1110 + IT 1010)

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 equipment use and 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

- **Program Approved Electives 3-5 credit hour(s)**

Certificate of Completion in Baking 26-28 credit hour(s)

Program Approved Electives

- **ACCT Courses 3-6 credit hour(s)**
- **BA Courses 3-6 credit hour(s)**
- **BIT 1005 - Survey of Business & Information Technology 3 credit hour(s)**
- **CIS courses 3 credit hour(s)**
- **CSE 1101 - College Success 1-3 credit hour(s)** or higher
- **CULN Courses 3-5 credit hour(s)** (except those required for the degree)
- **CULN 1096-1996 - Special Topics 1-3 credit hour(s) or CULN 2096-2996 - Special Topics 1-3 credit hour(s)** (Maximum 3 credits allowed)
- **FIN 1010 - Financial Literacy Complete 3 credit hour(s)**
- **FITT courses 1-3 credit hour(s)**
- **FREN 1101 - Beginning French I 3-4 credit hour(s)** or higher
- **HT Courses 3-4 credit hour(s)**
- **NUTR Courses 3 credit hour(s)**
- **SPAN 1101 - Beginning Spanish 3-4 credit hour(s)** or higher

Biology

Biology, Associate of Science

School of Math, Science & Engineering (MSE)

Description

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.

The two-year 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 the CNM Academic Advising Center.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Associate of Science Degree

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program.

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- Main Campus

Special Requirements

Students are expected to purchase textbooks, lab manuals and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000, Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1315

  or

- MATH 1410

  and

- MATH 1415

- Reading 2 Proficiency

Term 1

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

MATH 1460 - Elements Of Calculus I

3 credit hour(s) (Prerequisite: MATH 1315 or MATH 1415 or appropriate placement scores)

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.

or

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

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 course: 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.

and

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

MATH 1465 - Elements Of Calculus II

3 credit hour(s) (Prerequisite: MATH 1460)

Continues course of study begun in MATH 1460 - Elements Of Calculus I. Presents intensive study of substitution, integration by parts, 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.

or

MATH 1715 - Calculus II

4 credit hour(s) (Prerequisite: MATH 1710)

Continues 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.

- **Humanities Requirement 3 credit hour(s)**

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

BIO 1610/1692 - Genetics w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592) (Pre- or corequisite: CHEM 1810 + CHEM 1892)

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
- 45 lab hours

CHEM 2710 - Organic Chemistry I

3 credit hour(s) (Prerequisite: CHEM 1810/CHEM 1892)

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.

and

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

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

and

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

or

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

and

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

- **Humanities Requirement 3 credit hour(s)**

Term 4

PHYS 1610 - Physics II

4 credit hour(s)

(Prerequisites: RDG 0950 + PHYS 1510) (Recommended course: 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.

and

PHYS 1692 - 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

or

PHYS 1810 - Physics for Scientists and Engineers II

4 credit hour(s)

(Prerequisite: PHYS 1710) (Recommended course: PHYS 1892)* (Pre- or corequisite: MATH 1715)

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.

and

PHYS 1892 - Physics for Scientists and Engineers II Laboratory

1 credit hour(s) (Corequisite: PHYS 1810)

Focuses on experiments in electricity, magnetism, optics.
Note(s)

- 45 lab hours

BIO 2410/2492 - Ecology & Evolution w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592 + BIO 1610/1692) (Pre- or corequisite: MATH 1710 or MATH 1460)

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
- 45 lab hours

BIO 2510/2592 - Plant & Animal Form and Function w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592 + BIO 1610/1692)

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
- 45 lab hours

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

- **Fine Arts Requirement 3 credit hour(s)**

Associate of Science in Biology 71-73 credit hour(s)

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)

Description

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. A pending articulation agreement between CNM and the University of New Mexico will allow all CNM biotechnology coursework to be applied to the UNM Bachelor of Science degree in Biology and constitute a concentration in Biotechnology.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Biotechnology, Associate of Science

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- South Valley Campus

Special Requirements

Biotechnology core courses must be taken in sequence. Students are expected to purchase textbooks, lab manuals, lab notebooks, a lab coat and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000. Individual courses associated with this program may require students to purchase additional materials

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Prospects for Employment

- Biotechnology is an emerging industry nationally, and as the bioscience industry continues to grow,

so will the opportunities for biotechnicians.

Sample Job Duties

- Biotechnicians are employed in areas such as basic science research, clinical research, industrial research and development, pharmaceuticals, agricultural engineering and environmental science. Most Biology graduates with a four year degree and concentration in Biotechnology will find work in the first three fields because these are the most common biotechnology industries found in New Mexico.

Current pay rates

- In New Mexico, entry level salaries start at $15/hour for B.S. degree technicians. Salaries for experienced biotechnicians can reach $20+/hour.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1315

or

- MATH 1410

and

- MATH 1415

- Reading 2 Proficiency

Term 1

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1460 - Elements Of Calculus I

3 credit hour(s) (Prerequisite: MATH 1315 or MATH 1415 or appropriate placement scores)

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.

or

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

Term 2

BIO 1610/1692 - Genetics w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592) (Pre- or corequisite: CHEM 1810 + CHEM 1892)

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
- 45 lab hours

BIOT 1020 - Biotechnology I

4 credit hour(s) (Prerequisite: BIO 1510/1592 + CHEM 1710 + CHEM 1792) (Pre- or corequisite: BIO 1610/1692 + 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

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 course: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

MATH 1465 - Elements Of Calculus II

3 credit hour(s) (Prerequisite: MATH 1460)

Continues course of study begun in MATH 1460 - Elements Of Calculus I. Presents intensive study of substitution, integration by parts, 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.

or

MATH 1715 - Calculus II

4 credit hour(s) (Prerequisite: MATH 1710)

Continues 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.

Term 3

BIO 2410/2492 - Ecology & Evolution w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592 + BIO 1610/1692) (Pre- or corequisite: MATH 1710 or MATH 1460)

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
- 45 lab hours

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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Humanities Requirement 3 credit hour(s)**

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

Term 4

BIO 2510/2592 - Plant & Animal Form and Function w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592 + BIO 1610/1692)

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
- 45 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

- **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 hour(s)

Biotechnology, Certificate of Completion

School of Math, Science & Engineering (MSE)

Description

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 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. A pending articulation agreement between CNM and the University of New Mexico will allow all CNM biotechnology coursework to be applied to the UNM Bachelor of Science degree in Biology and constitute a concentration in Biotechnology

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Certificate of Completion Program

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- South Valley Campus

Special Requirements

Biotechnology core courses must be taken in sequence. Students are expected to purchase textbooks, lab manuals, lab notebooks, a lab coat and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit

available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $1,000 - $1,200. Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Prospects for Employment

- Biotechnology is an emerging industry nationally, and as the bioscience industry continues to grow, so will the opportunities for biotechnicians.

Sample Job Duties

- Biotechnicians are employed in areas such as basic science research, clinical research, industrial research and development, pharmaceuticals, agricultural engineering and environmental science. Most Biology graduates with a four year degree and concentration in Biotechnology will find work in the first three fields because these are the most common biotechnology industries found in New Mexico.

Current pay rates

- In New Mexico, entry level salaries start at $15/hour for B.S. degree technicians. Salaries for experienced biotechnicians can reach $20+/hour.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- MATH 1310
- Reading 2 Proficiency

Term 1

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

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

Term 2

BIO 1610/1692 - Genetics w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592) (Pre- or corequisite: CHEM 1810 + CHEM 1892)

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
- 45 lab hours

BIOT 1020 - Biotechnology I

4 credit hour(s) (Prerequisite: BIO 1510/1592 + CHEM 1710 + CHEM 1792) (Pre- or corequisite: BIO 1610/1692 + 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

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 course: 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

Term 3

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

Term 4

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

Certificate in Biotechnology 30-31 credit hour(s)

Business

Business, Associate of Arts

School of Business & Information Technology (BIT)

Description

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 Articulation agreements.

Students should communicate with the School of Business & Information Technology associate dean or program chairs at (505) 224-3811, 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.

Special Requirements

Additional Courses: Contact the School of Business & Information Technology and transfer institution(s) to determine if additional courses are required or accepted toward specific four-year graduation requirements.

Transfer Information

> **UNM:** It is recommended that students coordinate their choice of classes with the Anderson School of Management (ASM) pre-admission requirements listed on the ASM website. Students should contact the ASM admissions office one to two semesters prior to their expected start date to begin the application process.
>
> **NMHU:** Students should contact NMHU in Rio Rancho one to two semesters prior to their expected start date to begin the application process.

Career and Educational Opportunities

Careers that may require a bachelor's degree in business range widely from accounting, financial analysts, personal financial advisors, employment, recruitment and placement specialists, insurance sales agents and marketing and management, to name a few. The U.S. Department of Labor/Bureau of Statistics predicts that the demand for professionals in many of these areas is strong and is expected to remain so over the new few years.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310

- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

or

MATH 1415 - Advanced Algebra

4 credit hour(s) (Prerequisite: MATH 1315 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

or

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

- **Fine Arts Requirement 3 credit hour(s)**

Term 2

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

Surveys theories and problems of economic policy, including the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Laboratory Science Requirement 4 credit hour(s)**

MATH 1460 - Elements Of Calculus I

3 credit hour(s) (Prerequisite: MATH 1315 or MATH 1415 or appropriate placement scores)

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.

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

Term 3

ECON 2201 - Microeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

or

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.

or

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2232 - Business and Professional Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Emphasizes developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

- **Laboratory Science Requirement 4 credit hour(s)**

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

Term 4

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

- **Modern Language Elective 3-4 credit hour(s)**

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

- **Humanities Requirement 3 credit hours**

BA 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

Associate of Arts in Business 65-67 credit hour(s)

* Recommended for transfer to 4-year schools.

Business Administration

Business Administration, Associate of Applied Science

School of Business & Information Technology (BIT)

Description

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. Emphasis is placed on hands-on experiences and conducting real-world research and projects. The curriculum includes business concepts such as accounting, business law, management and marketing. Skills related to the applications of these concepts are developed through the study of computer applications, communications, team building and decision making.

The Business Administration certificate courses and several of the associate degree courses are offered online.

Career Opportunities in Business Administration

Gainful Employment information is available from Job Connection Services. Career opportunities are available in both the public and private sectors, including but not limited to: advertising, marketing, entrepreneurship, human resources, sales, real estate, retail, small business management and supervision. Important Note: Students who plan to transfer to a four-year business program are encouraged to meet with the program chair or associate dean during their first term. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

BA 1133 - Principles of Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Introduces the basic theory of organization and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 3

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

BA 2222 - Principles of Marketing

3 credit hour(s) (Prerequisites: (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 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

- **Program Approved Elective 3 credit hour(s)**

- Human Relations Requirement **3-4 credit hour(s)**

Term 4

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

BA 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

or

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

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

Term 5

BA 2999 - Capstone Course

1 credit hour(s) (Prerequisites: departmental approval)

Focuses on assessment of student learning outcomes for program of study.
Note(s)

- Taken in student's last term

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

Surveys theories and problems of economic policy, including the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

or

ECON 2201 - Microeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

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

Associate of Applied Science in Business Administration 64-66 credit hour(s)

Program Approved Electives

At least 9 credit hours must be BA, FIN and/or PM prefixes.

ACCT 1120 - Payroll Accounting

3 credit hour(s) (Recommended course: ACCT 1111 or ACCT 1110) (Pre- or corequisite: IT 1010)

Covers payroll accounting procedures and controls, tax and employment laws and tax reports that form the core of payroll responsibilities.

- **CIS Courses 1-3 credit hour(s)**

CSE 1101 - College Success

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self- management, self-awareness and interdependence.
Note(s)

- 45 theory hours
- 15 lab hours

BA 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- all courses ending in 96 are special topics

or

BA 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- all courses ending in 96 are special topics

BA 1105 - Introduction to Entrepreneurship

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

Introduces students to the concept of entrepreneurism 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 course: BA 1015)

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.

BA 1150 - Introduction to Quality Management

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval)

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: RDG 0750 or appropriate placement scores or department approval)

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: RDG 0750 or appropriate placement scores or department approval)

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 1165 - Personal Finance

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval)

Focuses on the personal and financial planning process with an emphasis on record keeping.

BA 1166 - Personal Investment Management

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement score or department approval)

Presents the basics of investment, securities markets, stocks and bonds, mutual funds, and other alternatives of investments. Risks associated with each and sources of investment information are discussed.

BA 1167 - Retirement Investment

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

Focuses on retirement and estate planning.

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 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: ENG 0950 + RDG 0950 or appropriate placement scores)

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.

BA 2103 - Entrepreneurship and Business Plan Development

6 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 2104 - Entrepreneurship in a Global Setting

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement scores or department approval. Recommended Prerequisite: BA 1105)

Focuses on providing an overview of entrepreneurship for the 21st century with an emphasis on entrepreneurship in a global setting. The contemporary world of entrepreneurship, the entrepreneurial perspective, the development of the entrepreneurial plan and the entrepreneurial ventures are covered.

BA 2120 - Financing an Import/Export Business

1 credit hour(s) (Prerequisite: BA 1101 or BA 1103 or department approval)

Focuses on how and where to obtain financing to operate an existing international business. Includes domestic and international financing sources, commercial banks and government guarantees, e.g. the Small Business Administration and how to obtain letters of credit.

BA 2121 - Basics of Importing

1 credit hour(s) (Prerequisite: BA 1101 or BA 1103 or department approval)

Focuses on importing terminology, importing Incoterms (standard trade definitions), flow of importing documents, customs broker assistance with importing issues, importing quality control, currency, ethics and environment for importers, trade shows, trademark and property rights.

BA 2122 - Basics of Exporting

1 credit hour(s) (Prerequisite: BA 1101 or BA 1103 or department approval)

Focuses on exporting terminology, exporting Incoterms (standard trade definitions), flow of exporting documents, customs broker assistance with exporting issues, exporting quality control, currency, ethics and environment for exporters, trade shows and property rights.

BA 2153 - Team Building for Quality

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement score or department approval)

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: RDG 0750 or appropriate placement score or department approval)

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: RDG 0750 or appropriate placement score or department approval)

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) (Prerequisites: RDG 0750 or appropriate placement scores or department approval)

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 2220 - Web Marketing

3 credit hour(s) (Recommended course: 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.

BA 2221 - Global Marketing

3 credit hour(s) (Prerequisite: BA 1101 or department approval)

Introduces marketing in a globalized world economy. The student will be introduced to a framework for analyzing marketing opportunities in different cultures and nations using the marketing mix.

BA 2226 - Sales

3 credit hour(s) (Prerequisite: BA 2222 or HT 2141 or department approval)

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 or department approval)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the relationship of self to customers, problem solving and communicating with customers, understanding customers, anticipating customers' needs and offering assistance.

BA 2232 - Supervision

3 credit hour(s) (Prerequisite: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

Focuses on the fundamental elements of supervision and the different supervisory roles. Planning and control, organizing, staffing and employee development, motivating individual and group performance and coping with workplace dynamics are covered.

BA 2234 - Organizational Behavior

3 credit hour(s) (Prerequisites: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

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 or department approval)

Focuses on the changing demographics of retail marketing, 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) (Prerequisites: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

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 2244 - Legal Issues in E-Commerce

3 credit hour(s) (Prerequisite: BA 1115 or department approval)(Recommended course: BA 1015)

Focuses on current legal issues for businesses that use the Internet. This course is intended for the business owner or professional that needs to understand the concepts and current issues involved in e-commerce. Major legal issues such as taxation, intellectual property, privacy, copyrights, trademarks and jurisdiction are discussed.

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 course: 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 2273 - Real Estate Finance

3 credit hour(s) (Recommended course: BA 2271)

Focuses on financing real property, money markets and sources of mortgage money, financial leverage, value of existing mortgage in the current market and purchaser qualification.

BA 2274 - Real Estate Investment

3 credit hour(s) (Recommended course: 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.

BA 2275 - Broker Basics

3 credit hour(s) (Recommended Prerequisites: 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.

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) (Prerequisites: BA 1101 or BA 1133 + BA 1121 or ENG 1101 or department approval)

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.

BA 2282 - Leadership and Group Dynamics

3 credit hour(s) (Prerequisite:BA 1131 or BA 2234 or BA 1121 or ENG 1101 or department approval)

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 2284 - Strategic Management

3 credit hour(s) (Prerequisite: BA 1101 or BA 1133 + BA 1121 or ENG 1101 or department approval)

Explores strategic management activities undertaken by the leadership of a business organization and focuses on the integration of ethics, sustainability, globalization and technology in planning, implementing and evaluating different strategies. Examining the external and internal environments, students will analyze and apply problem- solving skills to situations that affect business operations.

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.

- **FIN Courses**

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

- **HT Courses 3 credit hour(s)**

- **PM Courses 3-6 credit hour(s)** (except those required for degree)

Business Administration, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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. Emphasis is placed on hands-on experiences and conducting real-world research and projects. The curriculum includes business concepts such as accounting, business law, management and marketing. Skills related to the applications of these concepts are developed through the study of computer applications, communications, team building and decision making.

The Business Administration certificate courses and several of the associate degree courses are offered online.

Career and Educational Opportunities

Career opportunities are available in both the public and private sectors, including but not limited to: advertising, marketing, entrepreneurship, human resources, sales, real estate, retail, small business management and supervision.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Important Note: *Students who plan to transfer to a four-year business program are encouraged to meet with the program chair or associate dean during their first term.*

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

BA 1133 - Principles of Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Introduces the basic theory of organization and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 3

ACCT 1210 - Accounting II

3 credit hour(s) (Prerequisites: IT 1010 + [ACCT 1109 or MATH 1315 or higher] + [ACCT 1110 or Pre- or

corequisite: ACCT 1112])

Presents utilization of accounting information for decision making by management in planning and controlling business activities.

BA 2222 - Principles of Marketing

3 credit hour(s) (Prerequisites: (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 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

- **Program Approved Elective 3 credit hour(s)**

Certificate of Completion in Business Administration 39 credit hour(s)

Program Approved Electives

At least 9 credit hours must be BA, FIN and/or PM prefixes.

ACCT 1120 - Payroll Accounting

3 credit hour(s) (Recommended course: ACCT 1111 or ACCT 1110) (Pre- or corequisite: IT 1010)

Covers payroll accounting procedures and controls, tax and employment laws and tax reports that form the core of payroll responsibilities.

- **CIS Courses 1-3 credit hour(s)**

CSE 1101 - College Success

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self- management, self-awareness and interdependence.
Note(s)

- 45 theory hours

- 15 lab hours

BA 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- all courses ending in 96 are special topics

or

BA 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- all courses ending in 96 are special topics

BA 1105 - Introduction to Entrepreneurship

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

Introduces students to the concept of entrepreneurism 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 course: BA 1015)

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.

BA 1150 - Introduction to Quality Management

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval)

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: RDG 0750 or appropriate placement scores or department approval)

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: RDG 0750 or appropriate placement scores or department approval)

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 1165 - Personal Finance

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval)

Focuses on the personal and financial planning process with an emphasis on record keeping.

BA 1166 - Personal Investment Management

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement score or department approval)

Presents the basics of investment, securities markets, stocks and bonds, mutual funds, and other alternatives of investments. Risks associated with each and sources of investment information are discussed.

BA 1167 - Retirement Investment

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

Focuses on retirement and estate planning.

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 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: ENG 0950 + RDG 0950 or appropriate placement scores)

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.

BA 2103 - Entrepreneurship and Business Plan Development

6 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 2104 - Entrepreneurship in a Global Setting

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement scores or department approval. Recommended Prerequisite: BA 1105)

Focuses on providing an overview of entrepreneurship for the 21st century with an emphasis on entrepreneurship in a global setting. The contemporary world of entrepreneurship, the entrepreneurial perspective, the development of the entrepreneurial plan and the entrepreneurial ventures are covered.

BA 2120 - Financing an Import/Export Business

1 credit hour(s) (Prerequisite: BA 1101 or BA 1103 or department approval)

Focuses on how and where to obtain financing to operate an existing international business. Includes domestic and international financing sources, commercial banks and government guarantees, e.g. the Small Business Administration and how to obtain letters of credit.

BA 2121 - Basics of Importing

1 credit hour(s) (Prerequisite: BA 1101 or BA 1103 or department approval)

Focuses on importing terminology, importing Incoterms (standard trade definitions), flow of importing documents, customs broker assistance with importing issues, importing quality control, currency, ethics and environment for importers, trade shows, trademark and property rights.

BA 2122 - Basics of Exporting

1 credit hour(s) (Prerequisite: BA 1101 or BA 1103 or department approval)

Focuses on exporting terminology, exporting Incoterms (standard trade definitions), flow of exporting documents, customs broker assistance with exporting issues, exporting quality control, currency, ethics and environment for exporters, trade shows and property rights.

BA 2153 - Team Building for Quality

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement score or department approval)

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: RDG 0750 or appropriate placement score or department approval)

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: RDG 0750 or appropriate placement score or department approval)

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) (Prerequisites: RDG 0750 or appropriate placement scores or department approval)

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 2220 - Web Marketing

3 credit hour(s) (Recommended course: 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.

BA 2221 - Global Marketing

3 credit hour(s) (Prerequisite: BA 1101 or department approval)

Introduces marketing in a globalized world economy. The student will be introduced to a framework for analyzing marketing opportunities in different cultures and nations using the marketing mix.

BA 2226 - Sales

3 credit hour(s) (Prerequisite: BA 2222 or HT 2141 or department approval)

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 or department approval)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the relationship of self to customers, problem solving and communicating with customers, understanding customers, anticipating customers' needs and offering assistance.

BA 2232 - Supervision

3 credit hour(s) (Prerequisite: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

Focuses on the fundamental elements of supervision and the different supervisory roles. Planning and control, organizing, staffing and employee development, motivating individual and group performance and coping with workplace dynamics are covered.

BA 2234 - Organizational Behavior

3 credit hour(s) (Prerequisites: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

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 or department approval)

Focuses on the changing demographics of retail marketing, 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) (Prerequisites: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

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 2244 - Legal Issues in E-Commerce

3 credit hour(s) (Prerequisite: BA 1115 or department approval)(Recommended course: BA 1015)

Focuses on current legal issues for businesses that use the Internet. This course is intended for the business owner or professional that needs to understand the concepts and current issues involved in e-commerce. Major legal issues such as taxation, intellectual property, privacy, copyrights, trademarks and jurisdiction are discussed.

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 course: 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 2273 - Real Estate Finance

3 credit hour(s) (Recommended course: BA 2271)

Focuses on financing real property, money markets and sources of mortgage money, financial leverage, value of existing mortgage in the current market and purchaser qualification.

BA 2274 - Real Estate Investment

3 credit hour(s) (Recommended course: 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.

BA 2275 - Broker Basics

3 credit hour(s) (Recommended Prerequisites: 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.

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) (Prerequisites: BA 1101 or BA 1133 + BA 1121 or ENG 1101 or department approval)

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.

BA 2282 - Leadership and Group Dynamics

3 credit hour(s) (Prerequisite:BA 1131 or BA 2234 or BA 1121 or ENG 1101 or department approval)

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 2284 - Strategic Management

3 credit hour(s) (Prerequisite: BA 1101 or BA 1133 + BA 1121 or ENG 1101 or department approval)

Explores strategic management activities undertaken by the leadership of a business organization and focuses on the integration of ethics, sustainability, globalization and technology in planning, implementing and evaluating different strategies. Examining the external and internal environments, students will analyze and apply problem- solving skills to situations that affect business operations.

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.

- **FIN Courses**

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

- **HT Courses 3 credit hour(s)**

- **PM Courses 3-6 credit hour(s)**

General Business, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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

Career and Educational Opportunities

The courses may be applied to an associate of applied science degree in Business Administration.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency (Recommended)
- Reading 2 Proficiency

Term 1

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1133 - Principles of Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Introduces the basic theory of organization and includes the management functions of planning, organizing, directing and controlling, human relations, group process, problem solving, team building and leadership skills.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

or

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

or

BA 1115 - Web Business

3 credit hour(s) (Recommended course: BA 1015)

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.

or

BA 1105 - Introduction to Entrepreneurship

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

Introduces students to the concept of entrepreneurism 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.

or

FIN 1100 - Principles of Banking

3 credit hour(s) Surveys major aspects of banking from the fundamentals of negotiable instruments to contemporary issues.

Certificate of Completion, General Business 18 credit hour(s)

Project Management, Certificate of Completion

School of Business & Information Technology (BIT)

Description

The Project Management Certificate of Completion courses focus on the different aspects of project management, and students have the opportunity to create a project plan, prepare a project master schedule, develop a work breakdown structure, allocate resources, and assign labor hours to a project.

Career and Educational Opportunities

The courses may be applied to an Associate of Applied Science degree in Business Administration. Project Management is one of the fastest growing disciplines and is used in a multitude of business and government agencies such as information technology, construction, engineering, financial services, and health care.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency
- IT 1010

Term 1

PM 1130 - Project Management Fundamentals

4 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1150 - Effective Project Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or department approval)

Focuses on the competencies needed to apply effective project concepts and methodologies to create a positive environment. Effective leadership and team management concepts and how these concepts are used to align project management functions within an organization are presented.

Term 2

PM 2200 - Budget and Resource Management

3 credit hour(s) (Prerequisite: IT 1010 + (PM 1130 or CM 1220) or department approval)

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 2210 - Contract Management

3 credit hour(s) (Prerequisite: PM 1130 or CM 1220 department approval)

Covers various forms of project contracts and legal documentation. Critical duties preformed by contracting personnel and project managers during the negotiation and contact administration phase of the acquisition process are emphasized.

Term 3

PM 2250 - Advanced Project Management

3 credit hour(s) (Prerequisite: PM 1130 + PM 1150 + PM 2200 + PM 2210 or department approval)

Emphasizes the various types of knowledge and skills that are required by an experienced project manager and how to deal with advanced problems in organization structure, behavior and leadership. Students create a project plan, prepare a project master schedule, develop a work breakdown structure, allocate various resources and assign labor amounts to a specific project. Program core competencies are also measured in this course.

Certificate of Completion in Project Management 16 credit hour(s)

Career Technical

Career Technical, Associate of Arts

School of Business & Information Technology (BIT)

Description

This program allows the student pursuing an associate of applied science certificate or 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 bachelor 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

Special Requirements

Department Approval Program (students must have completed or declared career technical certificate (with at least 30 technical credits) or career technical degree and completed at least 12 technical credits towards the declared career technical certificate or AAS degree)

Career and Educational Opportunities

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **Department Approval Program**
- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

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) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 3

- **Credits towards technical AAS or Certificate 6 credit hour(s)***

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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 hour(s)

* 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)

Description

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.

Career and Educational Opportunities

Educational Opportunities

In addition to the general carpentry courses, students may take additional coursework including construction management, computer aided drafting, commercial construction theory, cost estimating, construction equipment, methods and general contractor preparation to earn an Associate Degree from Construction Technology.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

CARP 1005 - Carpentry Blueprint Reading I

4 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval, Recommended prerequisite: MATH 0750 + ENG 0750)

Includes lumber sizing, scaling, centering and triangle theory, interpretation of elevations drawings, floor plans, symbols, notations, dimensions and structural information.

CARP 1320 - Carpentry Fundamentals

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores, Recommended prerequisite: MATH 0750 + ENG 0750)

Includes safety and use of hand and power tools. Students design a project, generate an estimating and bill for materials, and build and comple the project are covered.
Note(s)

- 30 theory hours
- 45 lab hours

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

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.

Term 2

CARP 1692 - Advanced Furniture Making

2 credit hour(s) (Prerequisites: CARP 1320 + MATH 0750 + RDG 0750)

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 1315 - Cabinetmaking

3 credit hour(s)

- Pre- or corequisite: CARP 1320

  Recommended courses: MATH 0750 + RDG 0750 *

  Fundamentals of cabinet construction. Emphasis is on safety and use of tools. European construction is emphasized.
  Note(s)

- 15 theory hours
- 90 lab hours

  * Basic knowledge of math and reading concepts are recommended in order to enhance student success.

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

Certificate of Completion in Architectural Woodworking 18 credit hour(s)

Carpentry, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

Educational Opportunities

In addition to the general carpentry courses, students may take additional coursework including construction management, computer aided drafting, commercial construction theory, cost estimating, construction equipment, methods and general contractor preparation to earn an Associate Degree from Construction Technology.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

100 percent of Carpentry graduates obtained employment in 2007-2008.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

CARP 1005 - Carpentry Blueprint Reading I

4 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval, Recommended prerequisite: MATH 0750 + ENG 0750)

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 or department approval)

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 1320 - Carpentry Fundamentals

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores, Recommended prerequisite: MATH 0750 + ENG 0750)

Includes safety and use of hand and power tools. Students design a project, generate an estimating and bill for materials, and build and comple the project are covered.
Note(s)

- 30 theory hours
- 45 lab hours

CARP 1392 - Construction Lab A

5 credit hour(s) (Recommended prerequisite: MATH 0750 + RDG 0750) (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

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.

Term 2

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 1315 - Cabinetmaking

3 credit hour(s)

- Pre- or corequisite: CARP 1320

  Recommended courses: MATH 0750 + RDG 0750 *

  Fundamentals of cabinet construction. Emphasis is on safety and use of tools. European construction is emphasized.
  Note(s)

- 15 theory hours
- 90 lab hours

  * Basic knowledge of math and reading concepts are recommended in order to enhance student success.

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) (Recommended Prerequisite: CARP 1030 or department approval) (Pre- or corequisite: CARP 1005)

Introduces common materials and methods used for exterior and interior finish, moisture protection, exterior wall coverings, drywall and interior doors, trim and cabinet installation.

Certificate of Completion in Carpentry 31 credit hour(s)

Chemistry

Chemistry, Associate of Science

School of Math, Science & Engineering (MSE)

Description

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.

The two-year 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 the CNM Academic Advising Center.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Associate of Science Degree

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program.

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- Main Campus

Special Requirements

Students are expected to purchase textbooks, lab manuals and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000. Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1410

  and

- MATH 1415

- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **Humanities Requirement 3 credit hour(s)**

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

MATH 1715 - Calculus II

4 credit hour(s) (Prerequisite: MATH 1710)

Continues 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.

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

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 course: 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

Term 3

CHEM 2710 - Organic Chemistry I

3 credit hour(s) (Prerequisite: CHEM 1810/CHEM 1892)

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.

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

MATH 2710 - Calculus III

4 credit hour(s) (Prerequisite: MATH 1715)

Continues course of study begun in MATH 1715 - Calculus II, including multivariate and vector calculus: level curves and surfaces, partial derivatives, gradients, tangent planes, directional derivatives, multiple integrals, cylindrical and spherical coordinates, applications. A Graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

PHYS 1810 - Physics for Scientists and Engineers II

4 credit hour(s)

(Prerequisite: PHYS 1710) (Recommended course: PHYS 1892)* (Pre- or corequisite: MATH 1715)

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 - Physics for Scientists and Engineers II Laboratory

1 credit hour(s) (Corequisite: PHYS 1810)

Focuses on experiments in electricity, magnetism, optics.
Note(s)

- 45 lab hours

- **Fine Arts Requirement 3 credit hour(s)**

Term 4

CHEM 2810 - Organic Chemistry II

3 credit hour(s) (Prerequisite: CHEM 2710 + CHEM 2792)

Organic spectroscopic analysis. The chemistry or aromatic hydrocarbons, alcohols and ethers, aldehydes, ketones, carboxylic acids and derivatives, amines, amino acid, carbohydrates and other functional groups. Mechanisms and synthesis.

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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 6 credit hour(s)**

Associate of Science in Chemistry 65 credit hour(s)

Child, Youth and Family Development

Child, Youth and Family Development (AA), Social Work Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

The Child, Youth and Family Development program facilitates the learning of theory and competencies required to work in specific child and family settings. The Associate's degree includes a general education curriculum of 35 hours, which is accepted by New Mexico's colleges and universities as the general education core for degree completion.

The Social Work Concentration: Provides for diverse learning based upon student's interests in the social work field to include: child development, family studies, sociology, psychology, and criminal justice.

Students pursuing the Social Work Concentration can also take specified electives to become a Licensed Substance Abuse Associate (LSAA). The LSAA provides individuals with the entry level licensure required to work in the field of Substance Abuse Counseling. The associate degree in social work and the specified electives for the LSAA meet entry requirements to become a Licensed Alcohol and Drug Abuse Counselor (LADAC). 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 or (505) 476-4610.

Career and Educational Opportunities

Educational Opportunities

An associate's degree in social work is often required for obtaining a position as a social services assistant.

Social workers are typically required to have a bachelor's degree in social work (BSW) or higher. A master's degree in social work (MSW) can provide opportunities for advancement into clinical social work or social services management. Graduates from the program may transfer to designated four-year institutions that grant bachelors degrees in Family Studies or Social Work. The Social Work concentration is specifically articulated for transfer to New Mexico Highlands University's (Rio Rancho and Albuquerque) bachelors degree in Social Work.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Students pursuing a degree in Social Work have the opportunity to work with many types of people in a variety of settings. They may work with children and families, older adults, or people with mental illnesses. They often work in hospitals, nursing homes, substance abuse centers, and government agencies. The duties of a social worker or social services assistant may include planning group therapy, assisting clients with applying for social programs such as Medicare and welfare, and maintaining accurate client records.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- Math 2 Proficiency

or

- MATH 1310

- Reading 2 Proficiency

Term 1

CDV 2210 - Introduction to Social Work

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950) (Corequisite: CDV 2890)

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.

CDV 2890 - CYFD Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: CDV 2210)

Provides practical experiences in approval social work and/or closely related settings.
Note(s)

- 45 hours
- 1 theory hour
- 1 lab hour

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

or

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

or

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.

or

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2213 - Deviant Behavior

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

or

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

or

SOC 2225 - Sociology of Family

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Presents major theories of the family and the status of the modern family in an era of varied family forms.

or

SOC 2235 - Sociology of Gender

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

Term 2

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

or

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

ANTH 2238 - Cultures Of the Southwest

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Program Approved Elective 3 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) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

or

MATH 1320 - A Survey of Mathematics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Focuses on the creative nature of mathematics through problems, readings, discussions of topics such as set theory, logic, number theory, basic geometry and probability.

or

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

- **Program Approved Electives 6 credit hour(s)**

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

or

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.

or

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2213 - Deviant Behavior

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

or

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

or

SOC 2225 - Sociology of Family

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Presents major theories of the family and the status of the modern family in an era of varied family forms.

or

SOC 2235 - Sociology of Gender

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

Associate of Arts in Child, Youth and Family Development, Social Work Concentration 61 credit hour(s)

Program Approved Electives

If not used as required course

* Courses which meet the LSAA training hour requirements *(see program description for more information)*

- **Any AAST - Asian American Studies course**
- **Any AFST - African American Studies course**
- **Any CHMS - Chicano Studies course**
- **Any CST - Cultural Studies course**
- **Any NATV - Native American Studies course**
- **Any WMST - Women's Studies Course**

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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 hours

CDV 2096-2996 - Special Topics

1-6 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

CDV 2201 - Middle Childhood Growth and Development

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Examines the development and communication patterns of adolescents within the family setting.

CDV 2203 - Introduction to Addiction Counseling

2 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

CDV 2204 - Professional Issues in Substance Abuse Treatment

2 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement scores)

Introduces legal, ethical, and professional issues in substance abuse treatment.

CDV 2205 - Adolescent Substance Abuse: Prevention and Treatment

2 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

CDV 2218 - Strengthening Family Structures

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

CJ 1002 - Criminal Law

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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 1502 - Juvenile Law and Procedure

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Covers the juvenile court and justice system including the Children's Code and the Rules of Procedure.

COMM 2282 - Family Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101 + COMM 2221)

Examines family systems theory, communication patterns, rules, roles, themes, power, intimacy ethnicity and conflict in families.

ECME 1108 - Health Safety and Nutrition

2 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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 2206 - Family and Community Collaboration I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2214 - Guiding Young Children

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2230 - Infant-Toddler Growth Development and Learning

3 credit hour(s) (Prerequisites: RDG 0950, ENG 0950; or appropriate placement scores, see ***Prerequisite Requirement Guide***.) (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.

ECME 2232 - Family Infant Toddler Professionals Families and Communities

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + ECME 2230 + ECME 2690 or appropriate placement scores) (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.

ECME 2234 - Caregiving for Infants and Toddlers

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 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.
Note(s)

- Typically offered Summer term only.

ECME 2690 - Infant-Toddler Growth, Development and Learning Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: ECME 2230)

Provides application of knowledge gained from ECME 2230. Students must pass a background check to successfully complete the course requirements.
Note(s)

- 1 theory hour
- 1 lab hour

ECME 2790 - Family Infant Toddler Professionals Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)
(Corequisite: ECME 2232)

Provides application of knowledge gained from ECME 2232. Students must pass a background check to successfully complete the course requirements.
Note(s)

- 1 theory hour
- 1 lab hour

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 2204 - Child Development

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 + appropriate placement scores)

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.

or

ECME 1104 - Child Growth Development and Learning

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

EDUC 2207 - Educational Psychology

3 credit hour(s) (Prerequisites: ENG 0950 or appropriate placement scores.)

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about learning and instruction in classrooms and how theories of learning are connected to classroom situations.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

PSY 2200 - Statistical Principles

3 credit hour(s)

(Prerequisite: MATH 1210 or MATH 1310 + PSY 1105 + any two 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.
Note(s)

- Course offered Fall and Spring

PSY 2220 - Developmental Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes physical, social, emotional and intellectual development across the life span, including professional research and applications.

PSY 2231 - Human Sexuality

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score, Recommended prerequisite: PSY 1105)

Surveys and analyzes physiological, cultural, social and individual factors that influence sexual behavior, sex roles and sex identity.

PSY 2232 - Clinical Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Examines clinical psychology as a profession and research area: psychometrics and assessment, systems of prevention and therapy, forensic psychology, program evaluation, professional and ethical issues.

PSY 2233 - Psychology and Film

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score, Recommended prerequisite: PSY 1105)

Analyzes psychiatric disorders as portrayed in films, offering an opportunity to see realistic manifestations of madness and cinema's ability to reflect and to affect perceptions of mental illness and treatment.

PSY 2271 - Social Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes study of social interaction: communication, perception of the self and others, attitudes and leadership.
Note(s)

- Typically offered Fall and Spring term only.

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) (Prerequisite: RDG 0950 or appropriate placement scores)

Examines psychological, emotional and sociological aspects of death in American culture.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

SOC 2225 - Sociology of Family

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

SOC 2235 - Sociology of Gender

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

SOC 2250 - Social Problems Facing Children

3 credit hour(s) 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.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

SPED 2201 - Education of the Exceptional Person

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: SPED 2290)

Surveys the characteristics and educational needs of exceptional children, including definition, etiology, characteristics and various educational alternatives for each of the exceptionalities.

SPED 2290 - Introduction to Special Education

2 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: SPED 2201)

Provides field experience and seminar in special education settings. Students must pass a background check to successfully complete the course requirements.

College Success Experience

Program Description

CNM offers both developmental education and transfer-level College Success Experience (CSE) courses. These courses help students get organized, manage their time, set and meet goals, and study effectively. Students also explore career options, develop new learning strategies and self-motivation, and find new ways to approach tests and assignments in other disciplines. CSE courses numbered 0999 and below are graded CR/NC (credit/no credit); CSE courses numbered 1000 and above can be taken for a letter grade, taken CR/NC, or audited. See Course Descriptions for detailed course descriptions.

Full-time students who test into two or more developmental areas (Math, Reading, or English classes numbered below 1000) are encouraged to take a CSE course. Qualifying students who score between 0-68 on the Accuplacer Reading test should enroll in CSE 0650; students who score 69 or higher on the Accuplacer Reading test should enroll in CSE 1101.

Communication

Communication, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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 the two-year 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.

Educational Option Information

This educational option is a

- Associate of Arts degree and 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 to various areas of study in Communication Studies. Such exposure can aid students in choosing a four-year concentration best suited to their interests and goals.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Helpping you acquire the knowledge and skills necessary to give you an edge in the job market.
- Meeting the requirements for an Associate of Arts in Communication from CNM and prepare a student to obtain a Bachelor of Arts in Communication.

This educational option can be started

- Any term.

Primary course location

- Any CNM Campus.

Cost and Financial Aid

Financial Aid considerations

- This program is eligible for Financial Aid.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

This program prepares students for transfer to a four-year program in Communication or Speech, with a concentration in one or more of the following areas:

- Interpersonal Communication
- Intercultural Communication
- Organizational Communication
- Public Communication
- Mass Communication

Four-year graduates can pursue careers in a wide variety of fields.

Students interested in transferring to UNM should consult the UNM Department of Communication &

Journalism. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements. Students should also consult the CNM Academic Advisement for more information.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Year after year, surveys show that communication skills are ranked by employers as the most important quality necessary for entry-level job candidates. Ironically, communication skills are those that employers say entry-level job candidates most often lack.

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Sample Job Titles

- Specific examples of career options are avalable.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

COMM 1101 - Introduction to Communication

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.
- **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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **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) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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 hour(s)

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.

[1]Offered **online only!**

[2]Transfers to UNM as CJ 115

[3]Transfers to UNM as 200-level Communication elective course. Does not transfer as equivalent 300- or 400-level course at UNM.

Program Approved Electives

Choose from the following list of courses:

COMM 1110 - Mass Media and Society

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Examines the roles media play in American society and their effects on other forms of communication.

COMM 2096-2996 - Special Topics

1-3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101 or appropriate placement scores + COMM 2221)

Presents various topics.
Note(s)

- All courses ending in 96 are special topics

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Examines how the face and eyes, gestures, touch, voice, physical appearance, space, time and environment communicate in personal and professional interactions.

COMM 2225 - Small-Group Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Examines group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making in small group processes.

COMM 2232 - Business and Professional Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Emphasizes developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

COMM 2240 - Organizational Communication

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on communication networks, power and authority, manager/employee relationships, leadership and interviewing in organizational contexts.

COMM 2268 - Media Theories

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: 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.

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

COMM 2280 - Gender Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: 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.

COMM 2281 - Intercultural Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: 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.

COMM 2282 - Family Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101 + COMM 2221)

Examines family systems theory, communication patterns, rules, roles, themes, power, intimacy ethnicity and conflict in families.

COMM 2289 - Listening

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: 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.

Community Dental Health Coordinator

Community Dental Health Coordinator, Certificate of Completion

School of Health, Wellness & Public Safety (HWPS)

Description

This program is designed for Certified Dental Assistants (CDAs) and Dental Hygenists (RDHs) who are intersted in exploring community dental health. 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 recieve 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 they will be working with.

Career Opportunities

CDHCs work in Federally Qualified Health Centers (FQHCs), Indian Health Service and Tribal clinics, and other safety-net facilities. The role of the CDHC is emerging as a valuable member of the dental health care team. The State of New Mexico plans to expand the number of CDHCs working as patient navigators, preventive specialists, and oral health screening workforce in the community health center and private practice environment to reduce barriers to access (socio-economic, cultural, geographic, educational, and psychological), while increasing the capacity of community dental health programs and private practices.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- ENG 1101 - College Writing
- Math 1 Proficiency
- Reading 2 Proficiency
- COMM 2221 - Interpersonal Communication Studies

- HLTH 1001 - Clinical Preparation

or

- A current cardiopulmonary resuscitation (CPR) certificate from a DANB-accepted CPR provider and course.

Required Courses

BA 2282 - Leadership and Group Dynamics

3 credit hour(s) (Prerequisite:BA 1131 or BA 2234 or BA 1121 or ENG 1101 or department approval)

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.

COMM 2281 - Intercultural Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: 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.

HLTH 1030 - Introduction to Community Health Care

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

Term 1

CDHC 1010 - Interviewing Skills for the Dental Health Advocate

2 credit hour(s) (Prerequisite: BA 2282 + COMM 2281 + HLTH 1030) (Corequisite: CDHC 1020 + CDHC 1035 + CDHC 1045)

Overview of patient assessment interviewing skills for the Community Dental Health Coordinator. Covers 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) (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) (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) (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

Term 2

CDHC 2098 - Community Dental Health Coordinator Internship

6 credit hour(s) (Prerequisite: CDHC 1010 + CDHC 1020 + CDHC 1035 + CDHC 1045)

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

Certificate of Completion in Community Dental Health Coordinator 31 credit hour(s)

Computer Information Systems

Computer Information Systems (AAS), Cloud Technology Concentration

School of Business & Information Technology (BIT)

Description

The Cloud Technology Computer Information Systems 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 courses in this concentration, are designed to equip students with the necessary skills to obtain the VMware Certified Professional (VCP) certification.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

CIS 1410 - IT Essentials I: PC Hardware and Software

3 credit hour(s) (Pre- or corequisites: 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)

- 30 theory hours
- 45 lab hours

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.

- **Human Relations Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

CIS 1610 - Configuring Windows Client

3 credit hour(s)

(Prerequisite: IT 1010) (Recommended course: CIS 1420)*

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 MCSA certification. Version taught subject to change. Please check with the School of Business & Information Technology.

* Students are expected to know basic networking technology and terminology.
Note(s)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Laboratory Science Requirement 4-5 credit hour(s)** (except NS courses)

Term 3

CIS 1680 - Linux Essentials

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2620 - Configuring Windows Server

3 credit hour(s)

(Recommended course: CIS 1420 + CIS 1610)*

Focuses on user and group management, client and server management and file-sharing management.

* Students should have a basic knowledge of network concepts, terminology and components.
Note(s)

- This course may assist in preparation for MCCA certification
- Version being taught subject to change, please check with school
- 30 theory hours
- 45 lab hours

CIS 2810 - Cloud Infrastructure

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. Completion of this course satisfies the prerequisite for taking the VMware® Certified Professional 5 exam.
Note(s)

- 30 theory hours
- 45 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

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

Term 4

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

CIS 2630 - Administering Windows Server

3 credit hour(s) (Prerequisite: CIS 2620 or department approval)

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.

- 30 theory hours
- 45 lab hours

CIS 2820 - Virtual Desktop Infrastructure

3 credit hour(s) (Prerequisite: CIS 2810)

This course instructs in the installation, configuration, and management of fundamental virtual desktop 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 desktop infrastructures. Completion of this course will prepare you for taking the VMware® Certified Professional 5 Desktop [VCP5-DT] exam.
Note(s)

- 30 theory hours
- 45 lab hours

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.

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

Associate of Applied Science in Computer Information Systems, Cloud Technology Concentration 62-63 credit hour(s)

Program Approved Electives

BA 1152 - Quality Tools

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval)

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.

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.

CIS 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CIS 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.

Note(s)

- All courses ending in 96 are special topics

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1275 - C++ Programming I

3 credit hour(s) (Prerequisite: MATH 1310)

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)

- Students who have successfully completed similar introductory C++ programming courses, such as those at APS/CEC, may have this course waived and proceed to CIS 2275
- 30 theory hours
- 45 lab hours

CIS 1415 - Networking for Home and Small Business

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)

- 30 theory hours
- 45 lab hours

CIS 1425 - Network Topologies/Cisco Academy Semester 1

3 credit hour(s) (Pre- or corequisite: CIS 1410 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1715 - Overview of Web Technologies

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950) (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)

- 30 theory hours
- 45 lab hours

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. Students trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

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.

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

Computer Information Systems (AAS), Computer Programming Concentration

School of Business & Information Technology (BIT)

Description

Computer Programming emphasizes designing and building computer programs using C++, Java and/or C#. Students learn object-oriented design, Graphic User Interface construction and web applications and web services.

In the Computer Programming program, we emphasize designing and building software using three different computer programming languages. Our goal is two-fold 1) to provide our students with a solid foundation in computer programming and general education courses and 2) to train our students in the current computer programming techniques according to industry standards.

Career Opportunities

Gainful Employment information is available from Job Connection Services. Transfer and articulation agreement information is available at cnm.edu/transferout.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

CIS 1275 - C++ Programming I

3 credit hour(s) (Prerequisite: MATH 1310)

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)

- Students who have successfully completed similar introductory C++ programming courses, such as those at APS/CEC, may have this course waived and proceed to CIS 2275
- 30 theory hours
- 45 lab hours

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

CIS 1680 - Linux Essentials

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2275 - C++Programming II (Object-Oriented Programming)

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2520 - Introduction to SQL (Structured Query Language)

3 credit hour(s) (Prerequisites: CIS 1513 or department approval)

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.

- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 3

CIS 1280 - .Net I/C#

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2235 - Java Programming I

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

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
- 30 theory hours
- 45 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Human Relations Requirement 3 credit hour(s)**

Term 4

CIS 2237 - Android App Dev with Java

3 credit hour(s) (Prerequisite: CIS 2235 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2284 - .NET II/C#

3 credit hour(s) (Prerequisite: CIS 1280 or department approval)

Course focuses on development of ASP.net web applications using Microsoft's Visual Studio Integrated Developer Environment. A substantial portion of the course curriculum includes applications that manipulate relational databases, culminating in the configuration and customization of ASP.NET Membership databases. Students will create a fully-function photo-album website featuring user registration, albums, and comment functionality for authenticated users.
Note(s)

- 30 theory hours
- 45 lab hours

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.

- **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-

63 credit hour(s)

Program Approved Electives

CIS 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CIS 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

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. Students trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

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 2270 - Open GL Programming

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

Explores the OpenGL Application Programming Interface as it is implemented under Windows-based operating systems. The course covers the fundamentals of graphical programming using the C/C++ language. The course begins by exploring orthographic and perspective clipping and window viewports. Programming projects include building scenes with basic primitives including points, lines and polygons. Color, material, lighting properties and texture maps are incorporated into program later in the course. Students will use OpenGL's GLUT library for the necessary GUI capabilities.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 2277 - C++Programming III (Advanced OOP)

3 credit hour(s) (Prerequisite: CIS 2275 or department approval)

Covers advanced programming including stacks, queues, linked lists, template classes, inheritance and polymorphism and other computer science problems.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 2521 - Database Programming with PL/SQL

3 credit hour(s) (Prerequisite: CIS 2520 or department approval)

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.

- 30 theory hours
- 45 lab hours

CIS 2522 - APEX - Build Web Applications

3 credit hour(s) (Prerequisites: CIS 2520 or department approval)

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)

- 30 theory hours
- 45 lab hours

Computer Information Systems (AAS), Database Technology Concentration

School of Business & Information Technology (BIT)

Description

For many organizations database systems are the most business-critical components of their information technology infrastructure. Databases drive accounting, human resources, inventory, sales and other key operations. Qualified database designers are in great demand to design, maintain and secure these systems for maximum efficiency and competitiveness. Students learn the theoretical and practical aspects of designing, developing, implementing, managing and maintaining major database management systems (DBMS).

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1680 - Linux Essentials

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department

approval)

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.

CIS 1275 - C++ Programming I

3 credit hour(s) (Prerequisite: MATH 1310)

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)

- Students who have successfully completed similar introductory C++ programming courses, such as those at APS/CEC, may have this course waived and proceed to CIS 2275
- 30 theory hours
- 45 lab hours

CIS 2520 - Introduction to SQL (Structured Query Language)

3 credit hour(s) (Prerequisites: CIS 1513 or department approval)

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.

- 30 theory hours
- 45 lab hours

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Human Relations Requirement 3 credit hour(s)**

Term 3

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

CIS 1280 - .Net I/C#

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2521 - Database Programming with PL/SQL

3 credit hour(s) (Prerequisite: CIS 2520 or department approval)

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.

- 30 theory hours
- 45 lab hours

CIS 2522 - APEX - Build Web Applications

3 credit hour(s) (Prerequisites: CIS 2520 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2525 - Developing Client/Server Apps with Enterprise Databases

3 credit hour(s)

(Prerequisite: CIS 2520 or department approval)

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).
- 30 theory hours
- 45 lab hours

Term 4

CIS 2524 - PeopleSoft Enterprise Reporting Services

3 credit hour(s) (Prerequisite: CIS 2521 or department approval)

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)

- 30 theory hours
- 45 lab hours

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.

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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, Database Technology Concentration 62-63 credit hour(s)

Program Approved Electives

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.

CIS 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CIS 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

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. Students trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

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 or department approval)

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
- 30 theory hours
- 45 lab hours

CIS 2275 - C++Programming II (Object-Oriented Programming)

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2284 - .NET II/C#

3 credit hour(s) (Prerequisite: CIS 1280 or department approval)

Course focuses on development of ASP.net web applications using Microsoft’s Visual Studio Integrated Developer Environment. A substantial portion of the course curriculum includes applications that manipulate relational databases, culminating in the configuration and customization of ASP.NET Membership databases. Students will create a fully-function photo-album website featuring user registration, albums, and comment functionality for authenticated users.

Note(s)

- 30 theory hours
- 45 lab hours

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

Computer Information Systems (AAS), Digital Media Concentration

School of Business & Information Technology (BIT)

Description

Digital Media is a combination of technology and design. The program offers classes in areas such as graphic design/2d modeling, desktop/electronic publishing, web design, digital 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.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1105 - Introduction to Entrepreneurship

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

Introduces students to the concept of entrepreneurism 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.

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: RDG 0950 or appropriate placement scores)

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 1713 - Web Publishing

3 credit hour(s) (Prerequisite: CIS 1715) or (Pre- or corequisite: CIS 1310)

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)

- 30 theory hours
- 45 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).

Note(s)

- This course will be taught in a computer lab.

Term 2

ARTS 1121 - Two-Dimensional Design

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

CIS 1330 - Photoshop

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

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)

- 15 theory hours
- 30 lab hours

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)

- 30 theory hours

- 45 lab hours

Term 3

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

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)

- 30 theory hours
- 45 lab hours

CIS 2351 - Digital Media Delivery Applications

3 credit hour(s) (Prerequisite: CIS 1713 + CIS 2340)

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.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 2355 - Adobe Illustrator

3 credit hour(s) (Prerequisites: CIS 1330 or department approval)

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)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 4

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

CIS 2336 - Post Production Special Effects

3 credit hour(s) (Prerequisite: CIS 1310 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2375 - Digital Design Studio

3 credit hour(s) (Prerequisites: 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)

- 30 theory hours
- 45 lab hours

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.

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Human Relations Requirement 3 credit hour(s)**

Associate of Applied Science in Computer Information Systems, Digital Media Concentration 63-64 credit hour(s)

Computer Information Systems (AAS), Information Technology Systems and Services Concentration

School of Business & Information Technology (BIT)

Description

The Information Technology Systems and Services Concentration is a program that offers the students technology and business background to gain employment in an IT services and support environment. This concentration contains a broad spectrum of technical, business and project management coursework and explores how IT connects into the business environment.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

Term 2

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 2230 - Customer Relations

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the relationship of self to customers, problem solving and communicating with customers, understanding customers, anticipating customers' needs and offering assistance.

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 1145 - Microsoft Powerpoint

2 credit hour(s)

(Recommended course: 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)

- 20 theory hours
- 30 lab hours

CIS 1150 - MS Outlook

1 credit hour(s)

(Recommended course: CIS 1130)*

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)

- 10 theory hours
- 15 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 3

ACCT 1410 - Quickbooks Complete

3 credit hour(s) (Recommended course: ACCT 1111)

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.
Note(s)

- Previously ACCT 1411 + ACCT 1412 + ACCT 1413
- This course must be taught in a computer lab classroom

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

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.

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Human Relations Requirement 3 credit hour(s)**

Term 4

CIS 1183 - Access Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Access software from creating basic databases, macros and advanced design tools in databases.
Note(s)

- This course is offered via distance learning only
- This course may substitute for CIS 1180, CIS 1181 and CIS 1182
- 30 theory hours
- 45 lab hours

CIS 2670 - Computer Security+

3 credit hour(s) (Prerequisite: CIS 1420 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)

- 30 theory hours
- 45 lab hours

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.

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

PM 1130 - Project Management Fundamentals

4 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

- **Program Approved Elective 3 credit hour(s)**

Associate of Applied Science in Computer Information Systems, Information Technology Systems and Services Concentration 63 credit hour(s)

Program Approved Electives

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. Students trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

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.

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

PM 1150 - Effective Project Management

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or department approval)

Focuses on the competencies needed to apply effective project concepts and methodologies to create a positive environment. Effective leadership and team management concepts and how these concepts are used to align project management functions within an organization are presented.

Computer Information Systems (AAS), Network Administration Concentration

School of Business & Information Technology (BIT)

Description

This CIS Network Administration Concentration emphasizes networking from small to big enterprises using the Cisco Networking Academy. The Networking Administration program is designed to teach students how to manage, administer and troubleshoot small IP-based computer networks. Classes focus on an operating system overview, introductory networking and cabling, routers and routing, intermediate routing and switching, and Wide Area Networks (WANs). All classes are taught in accordance with the Cisco Academy CCNA program's objectives.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

CIS 1410 - IT Essentials I: PC Hardware and Software

3 credit hour(s) (Pre- or corequisites: 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)

- 30 theory hours
- 45 lab hours

CIS 1680 - Linux Essentials

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

CIS 1415 - Networking for Home and Small Business

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)

- 30 theory hours
- 45 lab hours

CIS 1425 - Network Topologies/Cisco Academy Semester 1

3 credit hour(s) (Pre- or corequisite: CIS 1410 or department approval)

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)

- 30 theory hours
- 45 lab hours

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Laboratory Science Requirement 4-5 credit hour(s)** (except NS courses)

Term 3

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

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)

- 30 theory hours
- 45 lab hours

CIS 2423 - Local Area Network Management/Cisco Academy Semester 3

3 credit hour(s) (Prerequisite: CIS 1425 or department approval)

Configure and troubleshoot routers/switches in a LAN environment.
Note(s)

- Prepares students for the Cisco Certified Networking Associate certification
- 30 theory hours
- 45 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Program Approved Elective 6 credit Hour(s)**

Term 4

CIS 2425 - Wide Area Network (WAN) Management/Cisco Academy Semester 4

3 credit hour(s) (Prerequisite: CIS 2420 + CIS 2423)

Configure and troubleshoot routers/switches in a WAN environment. Prepares students for the Cisco Certified Networking Associate certification.
Note(s)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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.

- **Human Relations Requirement 3 credit hour(s)**

Associate of Applied Science in Computer Information Systems, Network Administration Concentration 62-63 credit hour(s)

Program Approved Electives

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.

CIS 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CIS 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1275 - C++ Programming I

3 credit hour(s) (Prerequisite: MATH 1310)

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)

- Students who have successfully completed similar introductory C++ programming courses, such as those at APS/CEC, may have this course waived and proceed to CIS 2275
- 30 theory hours
- 45 lab hours

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1610 - Configuring Windows Client

3 credit hour(s)

(Prerequisite: IT 1010) (Recommended course: CIS 1420)*

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 MCSA certification. Version taught subject to change. Please check with the School of Business & Information Technology.

* Students are expected to know basic networking technology and terminology.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 1715 - Overview of Web Technologies

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950) (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)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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. Students trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

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.

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

Computer Information Systems (AAS), Systems Administration Concentration

School of Business & Information Technology (BIT)

Description

This CIS Systems Administration Concentration 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 Windows Server/ Client exams. The program is designed to prepare students for a career in Information Technology with a focus on system administration.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

CIS 1610 - Configuring Windows Client

3 credit hour(s)

(Prerequisite: IT 1010) (Recommended course: CIS 1420)*

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 MCSA certification. Version taught subject to change. Please check with the School of Business & Information Technology.

* Students are expected to know basic networking technology and terminology.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 1680 - Linux Essentials

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2620 - Configuring Windows Server

3 credit hour(s)

(Recommended course: CIS 1420 + CIS 1610)*

Focuses on user and group management, client and server management and file-sharing management.

* Students should have a basic knowledge of network concepts, terminology and components.
Note(s)

- This course may assist in preparation for MCCA certification
- Version being taught subject to change, please check with school
- 30 theory hours
- 45 lab hours

- **Laboratory Science Requirement 4-5 credit hour(s)** (except NS courses)

Term 3

CIS 1410 - IT Essentials I: PC Hardware and Software

3 credit hour(s) (Pre- or corequisites: 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)

- 30 theory hours
- 45 lab hours

CIS 2630 - Administering Windows Server

3 credit hour(s) (Prerequisite: CIS 2620 or department approval)

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.

- 30 theory hours
- 45 lab hours

CIS 2634 - Managing and Maintaining Windows Client

3 credit hour(s)

(Prerequisite: CIS 1610 or departmental approval)

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.
- 30 theory hours
- 45 lab hours

CIS 2650 - Advanced Windows Server

3 credit hour(s)

(Prerequisite: CIS 2620 or department approval)

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 MCSA certification. Server version being taught is subject to change.

- 30 theory hours
- 45 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

Term 4

CIS 2670 - Computer Security+

3 credit hour(s) (Prerequisite: CIS 1420 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)

- 30 theory hours
- 45 lab hours

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.

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **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 62-63 credit hour(s)

Program Approved Electives

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.

CIS 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CIS 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1275 - C++ Programming I

3 credit hour(s) (Prerequisite: MATH 1310)

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)

- Students who have successfully completed similar introductory C++ programming courses, such as those at APS/CEC, may have this course waived and proceed to CIS 2275
- 30 theory hours
- 45 lab hours

CIS 1280 - .Net I/C#

3 credit hour(s) (Prerequisite: CIS 1275 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1425 - Network Topologies/Cisco Academy Semester 1

3 credit hour(s) (Pre- or corequisite: CIS 1410 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1715 - Overview of Web Technologies

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950) (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)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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. Students trainees are paid by the cooperating firm and supervised jointly by CNM and the employer.

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.

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

Computer Information Systems (AAS), Web Technology Concentration

School of Business & Information Technology (BIT)

Description

Web Technology students acquire the necessary skills for entry level website design and management using current tools to
create and publish industry standard compliant web content.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1105 - Introduction to Entrepreneurship

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

Introduces students to the concept of entrepreneurism 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 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

CIS 1715 - Overview of Web Technologies

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950) (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)

- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

CIS 1210 - JavaScript Web Programming I

3 credit hour(s) (Prerequisite: CIS 1715) (Pre- or corequisite: CIS 1713)

This course introduces students to the JavaScript programming language. The course covers programming concepts including loops, variables, arrays, conditional statements, and functions. Students will learn the syntax of the JavaScript language and how it is used to interact with the Document Object Model to create dynamic and interactive Web pages.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 1330 - Photoshop

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 1713 - Web Publishing

3 credit hour(s) (Prerequisite: CIS 1715) or (Pre- or corequisite: CIS 1310)

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)

- 30 theory hours
- 45 lab hours

- **Human Relations Requirement 3 credit hour(s)**

Term 3

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours

- 45 lab hours

CIS 1730 - JavaScript Web Programming II

3 credit hour(s) (Prerequisite: CIS 1210 + CIS 1713)

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)

- 30 theory hours
- 45 lab hours

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)

- 15 theory hours
- 30 lab hours

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)

- 30 theory hours
- 45 lab hours

CIS 2760 - Web Metrics

3 credit hour(s) (Prerequisite: CIS 1210 + 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)

- 30 theory hours
- 45 lab hours

Term 4

CIS 1750 - PHP Web Programming

3 credit hour(s) (Prerequisite: CIS 1210)

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)

- 30 theory hours
- 45 lab hours

CIS 2351 - Digital Media Delivery Applications

3 credit hour(s) (Prerequisite: CIS 1713 + CIS 2340)

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.
Note(s)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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.

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

Associate of Applied Science in Computer Information Systems, Web Technology Concentration 61 credit hour(s)

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

School of Business & Information Technology (BIT)

Description

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 Associates 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

Employment Information

Students may prepare for CISCO CCNA certifications.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **Technical Degree**

Program Requirements

CIS 1425 - Network Topologies/Cisco Academy Semester 1

3 credit hour(s) (Pre- or corequisite: CIS 1410 or department approval)

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)

- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

CIS 2423 - Local Area Network Management/Cisco Academy Semester 3

3 credit hour(s) (Prerequisite: CIS 1425 or department approval)

Configure and troubleshoot routers/switches in a LAN environment.
Note(s)

- Prepares students for the Cisco Certified Networking Associate certification
- 30 theory hours
- 45 lab hours

CIS 2425 - Wide Area Network (WAN) Management/Cisco Academy Semester 4

3 credit hour(s) (Prerequisite: CIS 2420 + CIS 2423)

Configure and troubleshoot routers/switches in a WAN environment. Prepares students for the Cisco Certified Networking Associate certification.
Note(s)

- 30 theory hours
- 45 lab hours

Post Degree Certificate of Achievement in Computer Information Systems, CISCO Concentration 12 credit hour(s)

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

School of Business & Information Technology (BIT)

Description

This program is specifically designed to prepare students as Information Systems Security (INFOSEC) Professionals. Our courses meet the NSTISSI No. 4011 and CNSSI No. 4016 Entry Level Risk Analysts requirements as well as provide current Information Systems (IS) professionals with an IS security certification to meet the needs of current and future employer requirements. Upon successful completion of this program students will receive a CNM Certificate of Completion which meets numerous government security training requirements. Students will also be prepared and encouraged to take the CompTIA Security+ test during the program to receive the industry certification.

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

Career Opportunities

The cyber-security field is one of the fastest growing segments in the Information Technology field. Due to the size of this job market and its growth potential we feel that students and professionals will benefit from a cyber-security program. We are proposing the creation of a cyber-security post degree certification program. This program will provide students at CNM with the skills that are needed in the cyber-security field. In addition, it will also offer an industry certification in security. Upon successful completion of this program, students will have met the requirements for the Information Systems Security (INFOSEC) Professional, NSTISSI No. 4011 and Risk Analysts, CNSSI No.4016 Entry Level

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **Technical Degree**

Program Requirements

CIS 1836 - Disaster Recovery

3 credit hour(s) (Pre- or corequisite: CIS 1853 or departmental approval)

Presents methods to identify vulnerabilities and take appropriate countermeasures to prevent and mitigate failure risks for an organization. It will take an enterprise-wide approach to developing a disaster recovery plan.

CIS 1853 - Introduction to Info Systems

3 credit hour(s) (Prerequisite: departmental approval)

Topics include the history of computers, current computer technology and terminology, the Internet, software, systems, societal issues related to computer use, computer organization, programming languages, algorithms and problem solving. No prior computer experience is assumed.

CIS 2670 - Computer Security+

3 credit hour(s) (Prerequisite: CIS 1420 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)

- 30 theory hours
- 45 lab hours

CIS 2853 - Firewall Basics

3 credit hour(s) (Prerequisite: CIS 2670)

This course introduces students to the design and implementation of firewalls. The course covers such topics as firewalls using CISCO Routers, Microsoft server platform and UNIX platform. Focuses on how firewalls function in these environments and the basic steps to plan and implement firewalls.

CIS 2857 - Computer and Network Defense

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.

CIS 2858 - Computer and Network Ethics

3 credit hour(s) (Prerequisite: CIS 1853)

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.

credit hour(s)

Construction Management Technology

Construction Estimating and Scheduling, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Special Requirements

Because the level of experience for entering students varies, it may be necessary for new students to interview with the program chair to develop an appropriate schedule.

Career and Educational Opportunities

Students are prepared for entry level positions as construction estimators and schedulers.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency
- IT 1010

Term 1

CM 1105 - Construction Detailing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 + MATH 0940)

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: ENG 0950 + RDG 0950 + MATH 0940)

Introduction to the construction industry, educational opportunities, materials, techniques and terminology of construction.

CM 1205 - Computer Aided Construction Drafting/Engineering

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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 1115 - Commercial Construction Theory

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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.

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

Term 2

CM 1210 - Mechanical Electrical Systems and Construction

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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 1305 - Construction Estimating

3 credit hour(s) (Prerequisite: CM 1105 + CM 1110 or department approval, Recommended Prerequisite: MATH 0940)

Covers cost estimates on buildings based on Construction Specifications Institute, formatted budgets, take-off techniques.
Note(s)

- 15 theory hours
- 90 lab hours

CM 1220 - Introduction to Construction Project Management

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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.
Note(s)

- 45 theory hours

Term 3

CM 2105 - Construction Scheduling

3 credit hour(s) (Prerequisite: 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

Certificate of Completion in Construction Estimating and Scheduling 28-30 credit hour(s)

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)

Description

In order to contribute to a construction team. Emphasis is placed on developing the skills necessary to use state of the art technology.

Students are eligible for the Student Excellence Awards and Student Academic Achievement Certificates.

We ensure program academic quality improvement through assessment of both program core and exit competencies.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Graduating From CNM

This program is the only accredited two-year program in New Mexico, and is accredited by the American Council for Construction Education (ACCE).

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

CM 1105 - Construction Detailing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 + MATH 0940)

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: ENG 0950 + RDG 0950 + MATH 0940)

Introduction to the construction industry, educational opportunities, materials, techniques and terminology of construction.

CM 1115 - Commercial Construction Theory

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

Term 2

CM 1205 - Computer Aided Construction Drafting/Engineering

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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.
Note(s)

- 45 theory hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 3

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

CM 1305 - Construction Estimating

3 credit hour(s) (Prerequisite: CM 1105 + CM 1110 or department approval, Recommended Prerequisite: MATH 0940)

Covers cost estimates on buildings based on Construction Specifications Institute, formatted budgets, take-off techniques.
Note(s)

- 15 theory hours
- 90 lab hours

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

- **Communications Approved Elective 3 credit hour(s)**

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 applicatoin 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.

PHYS 1010 - Introduction to Physics

3 credit hour(s)

(Prerequisite: RDG 0950 or appropriate placement scores. Recommended course: MATH 0940)*

Surveys basic concepts and phenomena of physics.

* A working knowledge of basic algebra is useful.

Term 4

CM 2105 - Construction Scheduling

3 credit hour(s) (Prerequisite: 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.

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities Requirement 3 credit hour(s)**

or

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

Term 5

CM 2205 - Construction Surveying

3 credit hour(s) (Prerequisite: MATH 1310 or GIS 1001 or department approval)

Introduces the basic techniques and equipment used in surveying including tape, level and theodolite; leveling, distance and angle measurement; traversing; and note-keeping.
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.

BA 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

- **Technical Approved Elective 3 credit hour(s)**

Associates of Applied Science in Construction Management Technologies 73 credit hour(s)

* 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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite:

ENG 1101)

Examines group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making in small group processes.

COMM 2232 - Business and Professional Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Emphasizes developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

COMM 2240 - Organizational Communication

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on communication networks, power and authority, manager/employee relationships, leadership and interviewing in organizational contexts.

Technical Approved Electives

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.

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

BA 2232 - Supervision

3 credit hour(s) (Prerequisite: HT 1101 or BA 1133 + ENG 1101 or BA 1121 or department approval)

Focuses on the fundamental elements of supervision and the different supervisory roles. Planning and control, organizing, staffing and employee development, motivating individual and group performance and coping with workplace dynamics are covered.

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

PM 2200 - Budget and Resource Management

3 credit hour(s) (Prerequisite: IT 1010 + (PM 1130 or CM 1220) or department approval)

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 2210 - Contract Management

3 credit hour(s) (Prerequisite: PM 1130 or CM 1220 department approval)

Covers various forms of project contracts and legal documentation. Critical duties preformed by contracting personnel and project managers during the negotiation and contact administration phase of the acquisition process are emphasized.

Construction Technology

Construction Technology (AAS), Architectural Woodworking Concentration

School of Applied Technologies (AT)

Description

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

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CARP 1005 - Carpentry Blueprint Reading I

4 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval, Recommended prerequisite: MATH 0750 + ENG 0750)

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 or department approval)

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 1320 - Carpentry Fundamentals

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores, Recommended prerequisite: MATH 0750 + ENG 0750)

Includes safety and use of hand and power tools. Students design a project, generate an estimating and bill for materials, and build and comple the project are covered.
Note(s)

- 30 theory hours
- 45 lab hours

CARP 1392 - Construction Lab A

5 credit hour(s) (Recommended prerequisite: MATH 0750 + RDG 0750) (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

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.

Term 2

CARP 1315 - Cabinetmaking

3 credit hour(s)

- Pre- or corequisite: CARP 1320

  Recommended courses: MATH 0750 + RDG 0750 *

  Fundamentals of cabinet construction. Emphasis is on safety and use of tools. European construction is emphasized.
  Note(s)

- 15 theory hours
- 90 lab hours

  * Basic knowledge of math and reading concepts are recommended in order to enhance student success.

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) (Recommended Prerequisite: CARP 1030 or department approval) (Pre- or corequisite: CARP 1005)

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 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

Term 3

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

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**

or

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 4

ARTH 2251 - Art of the American Southwest

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents interrelationships of three Southwestern cultures emphasizing major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

CARP 1692 - Advanced Furniture Making

2 credit hour(s) (Prerequisites: CARP 1320 + MATH 0750 + RDG 0750)

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 2096-2996 - Special Topics

3-7 credit hour(s) Presents various topics.
Note(s)

- all courses ending in 96 are special topics

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

Associate of Applied Science in Construction Technology, Architectural Woodworking Concentration 60-65 credit hour(s)

Construction Technology (AAS), General Construction Concentration

School of Applied Technologies (AT)

Description

- ❒ Associate of Applied Science Degree in Construction Technology (Concentrations in General Construction or Electrical)
- ❒ Certificates of Completion in Carpentry, Residential Wiring or Electrical Trades
- ❒ Certificates of Achievement in Framing and Precision Woodworking
- ❒ The Construction Technology program offers courses of study concentrating in carpentry, residential wiring and electrical trades 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.
- ❒ Residential Wiring students take theory and lab classes (on- and off-campus) in residential wiring, including electrical circuitry, job-site safety and the National Electric Code (NEC), preparing students for the NM Residential Wireman's Certificate of Competence.
- ❒ The Electrical Trades program enables students to study commercial and industrial wiring methods and motor controls and helps prepare students for the State of New Mexico Journeyman Electrical Certificate (JE98).

Special Requirements

Students are required to purchase textbooks, personal hand tools and personal protective equipment for those respective classes.

Electrical students must have normal color differentiation because, as electricians, they work with identified colored wires requiring accurate connections. The moving and installation of electrical materials and equipment necessitate that the electrical worker be able to lift at least 50 pounds. Electrical workers may

work in various internal and external environments and should be free of chronic respiratory diseases and allergies. Most employers require a valid driver's license and clean driving record.

Fees: Course fees are published in the *Schedule of Classes*. These fees cover the cost of tools required for lab activities.

Career and Educational Opportunities

The New Mexico Department of Workforce Solutions predicts a continued increase in the demand for construction workers. In recent years, over 90 percent of Carpentry, Residential Wiring, Electrical Trades and Construction Technology graduates have obtained employment.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

CARP 1005 - Carpentry Blueprint Reading I

4 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores or department approval, Recommended prerequisite: MATH 0750 + ENG 0750)

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 or department approval)

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 1320 - Carpentry Fundamentals

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores, Recommended prerequisite: MATH 0750 + ENG 0750)

Includes safety and use of hand and power tools. Students design a project, generate an estimating and bill for materials, and build and comple the project are covered.
Note(s)

- 30 theory hours
- 45 lab hours

CARP 1392 - Construction Lab A

5 credit hour(s) (Recommended prerequisite: MATH 0750 + RDG 0750) (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

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.

Term 2

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 1315 - Cabinetmaking

3 credit hour(s)

- Pre- or corequisite: CARP 1320

Recommended courses: MATH 0750 + RDG 0750 *

Fundamentals of cabinet construction. Emphasis is on safety and use of tools. European construction is emphasized.
Note(s)

- 15 theory hours
- 90 lab hours

* Basic knowledge of math and reading concepts are recommended in order to enhance student success.

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) (Recommended Prerequisite: CARP 1030 or department approval) (Pre- or corequisite: CARP 1005)

Introduces common materials and methods used for exterior and interior finish, moisture protection, exterior wall coverings, drywall and interior doors, trim and cabinet installation.

Term 3

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

CARP 2130 - Metal Stud Framing

2 credit hour(s) (Pre- or corequisite: CARP 2030 + CARP 2005 or department approval)

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

CM 1110 - Construction Materials and Techniques

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 + MATH 0940)

Introduction to the construction industry, educational opportunities, materials, techniques and terminology of construction.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 4

CARP 2230 - Concrete Forming and Rigging

2 credit hour(s) (Pre- or corequisite: CARP 2030 + CARP 2005 or department approval)

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

CM 1205 - Computer Aided Construction Drafting/Engineering

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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 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.

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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) (Prerequisite: CM 1105 + CM 1110 or department approval, Recommended Prerequisite: MATH 0940)

Covers cost estimates on buildings based on Construction Specifications Institute, formatted budgets, take-off techniques.
Note(s)

- 15 theory hours
- 90 lab hours

CM 1215 - Construction Equipment and Methods

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0940 + RDG 0950 or appropriate placement scores 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.

- **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 hour(s)

Cosmetology

Cosmetology, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

Students will study basic cosmetology skills designed to meet standards established by the New Mexico State Board of Barbers and Cosmetologists. The degree requires 68-69 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 advisor for more information

Special Requirements

Student equipment and textbooks are required to complete the cosmetology courses. In order to become registered with the New Mexico Board of Barbers and Cosmetologists, students must have a high school diploma or equivalent, provide a birth certificate and pay a registration fee (money order) by the 5th day of the term.

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 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

A career in cosmetology may offer opportunities in the areas of stylist, consultant, sales representative or owner. Jobs are available in private salons, franchise salons and day spas. Attaining the AAS Degree in Cosmetology exceeds the State of New Mexico's requirements for licensure and may offer advancement opportunities in management positions in industry or entrepreneurial situations of salon ownership.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Required Program Courses

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

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Fine Arts Requirement 3 credit hour(s)**

or

- **Modern Language Elective 3 credit hour(s)**

- **Humanities Requirement 3 credit hour(s)**

or

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 1

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 advisor for more information.

COS 1010 - Orientation

2 credit hour(s) (Prerequisite: MATH 1210 + IT 1010 + ENG 1101 + Fine Arts Elective or Language Elective or Humanities Elective or Social/Behavioral Science Elective) (Corequisites: 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) (Corequisites: 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) (Corequisites: 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

Term 2

COS 1080 - Salon Theory I

2 credit hour(s) (Prerequisites: COS 1010 + COS 1020 + COS 1030) (Corequisites: 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

5 credit hour(s) (Pre- or corequisite: COMM 2221) (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)

- 225 lab hours

COS 1193 - Skin/Nails Service

4 credit hour(s) (Prerequisite: COS 1010) (Pre- or corequisite: COMM 2221) (Corequisite: 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)

- 180 lab hours

Term 3

COS 2080 - Salon Theory II

1 credit hour(s) (Prerequisites: COS 1080 + COS 1092 + COS 1193) (Corequisites: 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

Term 4

COS 2505 - Salon Operation Theory

1 credit hour(s) (Prerequiste: COS 2080 + COS 2093 + COS 2492) (Corequisite: COS 2510 + COS 2511 + COS 2592 + COS 2692 + COS 2693)

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 + COS 2693)

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 + COS 2693)

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 + COS 2693)

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.
Note(s)

- 135 lab hours

COS 2692 - Advanced Salon Lab

4 credit hour(s) (Corequisite: COS 2505 + COS 2510 + COS 2511 + COS 2592 + COS 2693)

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)

- 180 lab hours

COS 2693 - Advanced Salon Lab II

4 credit hour(s) (Corequisite: COS 2505 + COS 2510 + COS 2511 + COS 2592 + COS 2692)

Students will learn advanced use of products, materials and implements in application of scissors, shears, razor and clippers, wet styling, blow drying, finger waving, air waving, hair pressing, hair extensions, weaving, braiding, corn rowing, skin treatments including massage, makeup applications and use of electric appliances, specialized machines, artificial lashes, removal of unwanted hair, lash/brow tinting, light therapy, marketing retail techniques and portfolio development.
Note(s)

- 180 lab hours

Associate of Applied Science in Cosmetology 68-69 credit hour(s)

Criminal Justice

Criminal Justice, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

The number of careers in the field of Criminal Justice continues to expand. Including careers in both the 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.

Special Requirements

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.

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

Many careers at the state and Federal level require a minimum of a 4 year Bachelor's Degree. The Criminal Justice courses from CNM are transferable to the 4 year colleges and universities in New Mexico which have a CJ degree. A copy of the transfer matrix is located on the New Mexico Department of Higher Education home page. The CNM Criminal Justice program also has several articulation agreements with state colleges and universities where our graduates may transfer the degree over as the first two years of study for a 4 year degree. Students who graduate from an accredited state law enforcement or corrections academy may receive up to 22 hours of course credit in the core curriculum.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CJ 1001 - Introduction to Criminal Justice

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommend)*****

CJ 1502 - Juvenile Law and Procedure

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

or

CJ 1580 - Patrol Practices

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Introduces basic patrol functions, practices problems faced by law enforcement officers.

CJ 1518 - Report Writing

3 credit hour(s) (Prerequisite: ENG 1101 + MATH 0930 or appropriate placement scores)

Covers criminal justice reports, including writing and use of forms.

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

or

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

Term 3

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

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.

- **Program Approved Elective 3 credit hour(s)**

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

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.

Term 4

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) (Prerequisites: 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 2692 - Criminal Investigation Laboratory

1 credit hour(s) (Prerequisite: CJ 2515)

Introduces exercises and practical demonstrations related to the investigations of crime.
Note(s)

- 45 lab hours

- **Program Approved Elective 9 credit hour(s)**

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

Program Approved Electives

Choose 12 credit hours from the following courses:

CJ 2005 - Probation and Parole

3 credit hour(s) (Prerequisites: 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

CJ 2512 - Juvenile Corrections

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores + 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 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 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

1-6 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

Criminology

Criminology, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

Criminology is the scientific study of crime, including the measurement, etiology, consequences, prevention, control, and treatment of crime and delinquency. The criminology major is well-suited for students interested in 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.

Educational Option Information

This educational option is a

- This two-year program

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed

- to meet the requirements for an Associate of Arts in Criminology from CNM and prepare a student to obtain a Bachelor of Arts in Criminology or Sociology from a 4-year college or university.

This educational option can be started

- Any term.

Special Requirements

In addition to the UNM criminology requirements shown in the term-by-term outline, students can transfer six credit hours of CNM sociology courses listed on the UNM approved electives list for criminology majors; these include SOC 2211 Social Problems, SOC 2213 Deviant Behavior , and SOC 2216 Ethnic and Minority Groups. CNM sociology courses not listed here transfer to UNM as electives. The UNM Department of Sociology will accept 6 credit hours from CNM's Criminal Justice program (courses with a CJ prefix); the hours will transfer as electives for UNM criminology majors. The Criminal Justice (CJ) credit hours do not count toward the CNM Liberal Arts degree.

Information for people with felony convictions

- Graduates who intend to work in the field of law enforcement may wish to check agency requirements.

Cost and Financial Aid

Financial Aid considerations

- This program is eligible for Financial Aid

Career and Educational Opportunities

Educational Opportunities

The two-year program listed is designed to meet the requirements for an Associate of Arts in Criminology from CNM and prepare a student to obtain a Bachelor of Arts in Criminology at University of New Mexico. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Criminology majors interested in transfer to UNM should consult the UNM Sociology 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 the CNM Academic Advising Center.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Course Sequence

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Modern Language Elective 4 credit hour(s)**

- **Humanities Requirement 3 credit hour(s)**

- **Laboratory Science Requirement 4 credit hour(s)**

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.

or

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.

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2213 - Deviant Behavior

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

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

Term 4

- **Elective 6 credit hour(s)**

- **Program Approved Elective 3 credit hour(s)**

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

1 credit hour(s) (Prerequisite: SOC 1101) (Pre- or corequisite: SOC 2280)

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.

Associate of Arts in Criminology 61-62 credit hour(s)

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.

Program Approved Electives

Choose from the following courses:

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

SOC 2213 - Deviant Behavior

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution,

mental disorders and suicide.

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

Culinary Arts

Culinary Arts (AAS), Advanced Baking and Pastry Concentration

School of Business & Information Technology (BIT)

Description

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.

The American Culinary Federation Foundation Accrediting Commission (ACFFAC) nationally accredits this program. 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. Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

CULN 1112 - Intermediate Culinary Skills

5 credit hour(s) (Prerequisites: CULN 1100 + CULN 1103 + CULN 1110 + IT 1010) (Recommended corequisite: HT 2215)

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

HT 2215 - Purchasing and Cost Controls

3 credit hour(s) (Prerequisite: HT 1101 or CULN 1100 or CULN 1010 or department approval) (Recommended pre- or corequisite: 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.

Human Relations Requirement 3-4 credit hour(s)

Term 3

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

CULN 1130 - Introduction to Baking Fundamentals

5 credit hour(s) (Prerequisites: CULN 1100 + CULN 1103 + CULN 1110 + IT 1010)

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 equipment use and 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

NUTR 1010 - Personal and Practical Nutrition

3 credit hour(s) (Pre-or corequisite: ENG 0950 or appropriate placement scores)

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.

Term 4

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

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.

- **Program Approved Electives 7-9 credit hour(s)**

Associate of Applied Science in Culinary Arts, Advanced Baking and Pastry Concentration 61-66 credit hour(s)

* Recommended for transfer to 4-year schools.

Program Approved Electives

- **Any ACCT - Accounting course 3-6 credit hour(s)**
- **Any BA - Business Administration course 3-6 credit hour(s)**
- **Any CIS - Computer Information Systems course 3 credit hour(s)**
- **Any CULN - Culinary Arts course 3-5 credit hour(s)** (except those required for the degree)

- **Any FITT - Fitness Technician course 1-3 credit hour(s)**
- **Any HT - Hospitality and Tourism course 3-4 credit hour(s)**
- **Any NUTR - Nutrition course 3 credit hour(s)**

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.

CSE 1101 - College Success

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self- management, self-awareness and interdependence.
Note(s)

- 45 theory hours
- 15 lab hours

CULN 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CULN 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

FREN 1101 - Beginning French I

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces development of French language skills emphasizing listening, comprehension and speaking.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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 1320 - A Survey of Mathematics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Focuses on the creative nature of mathematics through problems, readings, 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 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

Culinary Arts (AAS), Culinary Arts Concentration

School of Business & Information Technology (BIT)

Description

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.

The American Culinary Federation Foundation Accrediting Commission (ACFFAC) nationally accredits this program. 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. Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities.

Career and Educational Opportunities

Educational Opportunities

Students completing the degree may also receive certificates in Food Service Management, Culinary Fundamentals, and Baking.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Jobs are available in restaurants, casinos, resorts, schools, retirement homes, hospitals, cruise ships, catering companies, convention centers and other areas. Types of employment range from business owners, to bakers or cooks and managers or chefs and include employment opportunities from the fast food industry and fine dining establishments to casinos and resorts.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

CULN 1130 - Introduction to Baking Fundamentals

5 credit hour(s) (Prerequisites: CULN 1100 + CULN 1103 + CULN 1110 + IT 1010)

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 equipment use and 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

NUTR 1010 - Personal and Practical Nutrition

3 credit hour(s) (Pre-or corequisite: ENG 0950 or appropriate placement scores)

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.

Term 3

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

CULN 1112 - Intermediate Culinary Skills

5 credit hour(s) (Prerequisites: CULN 1100 + CULN 1103 + CULN 1110 + IT 1010) (Recommended corequisite: HT 2215)

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

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.

HT 2215 - Purchasing and Cost Controls

3 credit hour(s) (Prerequisite: HT 1101 or CULN 1100 or CULN 1010 or department approval) (Recommended pre- or corequisite: 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.

- **Human Relations Requirement 3 credit hour(s)**

Term 4

CULN 2214 - Advanced Culinary Skills

4 credit hour(s) (Prerequisite: CULN 1112 + HT 1164) (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) (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.

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.

- **Program Approved Electives 4-5 credit hour(s)**

Associate of Applied Science in Culinary Arts, Culinary Arts Concentration 63-66 credit hour(s)

* Recommended for transfer to 4-year schools.

Program Approved Electives

- **Any ACCT - Accounting course 3-6 credit hour(s)**
- **Any BA - Business Administration course 3-6 credit hour(s)**
- **Any CIS - Computer Information Systems course 3 credit hour(s)**
- **Any CULN - Culinary Arts course 3-5 credit hour(s)** (except those required for the degree)
- **Any FITT - Fitness Technician course 1-3 credit hour(s)**
- **Any HT - Hospitality and Tourism course 3-4 credit hour(s)**
- **Any NUTR - Nutrition course 3 credit hour(s)**

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.

CSE 1101 - College Success

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self- management, self-awareness and interdependence.
Note(s)

- 45 theory hours
- 15 lab hours

CULN 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

or

CULN 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

FREN 1101 - Beginning French I

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces development of French language skills emphasizing listening, comprehension and speaking.

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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 1320 - A Survey of Mathematics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Focuses on the creative nature of mathematics through problems, readings, 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 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

Culinary Fundamentals

Culinary Fundamentals, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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 Foundation Accrediting Commission (ACFFAC). 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. Students may participate in culinary competitions with ACF, SkillsUSA and other extracurricular activities..

Special Requirements

Students are required to purchase four sets of chef's uniforms, dining room service attire, textbooks and tools. Students should be able to lift 30 pounds and must present a physician's certificate to CNM at the start of classes stating that the student is free from tuberculosis in a transmissible form. Students must be able to stand for the duration of lab classes.

Career and Educational Opportunities

Jobs are available in restaurants, resorts, schools, retirement homes, hospitals, cruise ships, bed and breakfasts, catering companies, convention centers and other areas. Types of employment range from prep and pantry cooks to line or banquet cooks, as well as managers or chefs and include employment

opportunities from the fast food industry and fine dining establishments to casinos and resorts.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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 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 1103 - Safety and Sanitation Principles

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

CULN 1112 - Intermediate Culinary Skills

5 credit hour(s) (Prerequisites: CULN 1100 + CULN 1103 + CULN 1110 + IT 1010) (Recommended corequisite: HT 2215)

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

- **Program Approved Electives 7-8 credit hour(s)**

Certificate of Completion in Culinary Fundamentals 25-26 credit hour(s)

Program Approved Electives

- **Any ACCT - Accounting course 3-6 credit hour(s)**
- **Any BA - Business Administration course 3-6 credit hour(s)**
- **Any CIS - Computer Information Systems course 3 credit hour(s)**
- **Any CULN - Culinary Arts course 3-5 credit hour(s)** (except those required for the degree)
- **Any FITT - Fitness Technician course 1-3 credit hour(s)**
- **Any HT - Hospitality and Tourism course 3-4 credit hour(s)**
- **Any NUTR - Nutrition course 3 credit hour(s)**

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.

CSE 1101 - College Success

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self- management, self-awareness and interdependence.
Note(s)

- 45 theory hours
- 15 lab hours

CULN 1096-1996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

CULN 2096-2996 - Special Topics

1-3 credit hour(s) Presents various topics.
Note(s)

- All courses ending in 96 are special topics

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

FREN 1101 - Beginning French I

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces development of French language skills emphasizing listening, comprehension and speaking.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

Dental Assisting

Dental Assistant, Certificate of Completion

School of Health, Wellness & Public Safety (HWPS)

Description

Dental Assisting is a three-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.

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.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course

work.

- **High School Diploma or Equivalent**
- Coordinated Entry Program
- English 2 Proficiency
- Math 1 Proficiency
- Reading 2 Proficiency
- HLTH 1001 or a current cardiopulmonary resuscitation (CPR) certificate from a DANB-accepted CPR provider and course.

Required Courses

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

DA 1010 - Dental Science I

3 credit hour(s) (Prerequisites: RDG 0950 + MATH 0750 + ENG 0950 or appropriate placement scores)

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 1

DA 1101 - Practical Application of Dental Materials

2 credit hour(s) (Prerequisites: DA 1010 + ENG 1101 + COMM 2221 + department approval) (Corequisites: 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 an Recordings

3 credit hour(s) (Corequisites: 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)

(Corequisites: DA 1101 + DA 1104 + DA 1119 + 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) (Corequisites: 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) (Corequisites: DA 1101 + DA 1104 + DA 1107 + DA 1119 + DA 1193 + DA 1292)

This course provides the application of principles taught in DA 1101, with 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) (Corequisites: DA 1101 + DA 1104 + DA 1107 + DA 1119 + DA 1192 + DA 1292)

This course provides the application of principals taught in DA 1107, with 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.
Note(s)

- 45 lab hours

DA 1292 - Fundamentals of Chairside Assisting I Lab

1 credit hour(s)

(Corequisites: DA 1101 + DA 1104 + DA 1107 + DA 1119 + DA 1192 + DA 1193)

This course provides the clinical application of principles taught in DA 1119, with 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.

Note(s)

- 45 lab hours

Term 2

DA 1512 - Dental Science II

3 credit hour(s) (Prerequisites: DA 1101 + DA 1104 + DA 1107 + DA 1119 + DA 1192 + DA 1193 + DA 1292) (Corequisites: 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) (Corequisites: 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)

(Corequisites: 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) (Corequisites: DA 1512 + DA 1517 + DA 1519 + DA 1592 + DA 1593)

Introduces clinical practice through student perceptorships 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) (Corequisites: 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) (Corequisites: 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

Term 3

DA 2090 - Clinical Experience II

5 credit hour(s) (Preequisites: DA 1512 + DA 1517 + DA 1519 + DA 1590 + DA 1592 + DA 1593) (Corequisites: 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 2408 - Dental Administration and Communication

1 credit hour(s) (Corequisites: 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)

(Corequisites: 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 2513 - Introduction to Dental Specialties

2 credit hour(s) (Corequisites: 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) (Corequisites: 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

Dental Assistant, Certificate of Completion 46 credit hour(s)

Developmental Education

Description

The Developmental Education (DE) program offers courses to help students prepare for college in College Success Experience (CSE), English, English for Speakers of Other Languages (ESOL), Math, and Reading. Courses are numbered 0100 – 0999. Most Developmental Education classes include theory and lab hours.

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. Eligible students may receive financial aid for up to 30 credit hours in Developmental Education courses. Interested students should contact the School of Adult & General Education (SAGE) for more information.

Special Requirements

Students registering for most Developmental Education classes need to take the Accuplacer test to determine the appropriate course level. Most courses require students to purchase textbooks and supplies.

Career and Educational Opportunities

Developmental Education courses prepare students for arts and sciences or career/technical majors, for self-improvement or for career enhancement.

DEVELOPMENTAL EDUCATION COURSE OPTIONS *Course placement and order based on Accuplacer test results.*

Diagnostic Medical Sonography

Diagnostic Medical Sonography, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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 advisor 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

1361 Park Street
Clearwater, FL 33756
Phone: 727-210-2350
Fax: 727-210-2354

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 currently a nationwide demand for registered sonographers. Graduates will be employed as sonographers in hospitals, physician's offices and private sonography practices.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency
- Biology Proficiency

Required Courses (2 Terms)

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Human Relations Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

Term 3 (Fall Only)

DMS 1110 - Introduction to Diagnostic Medical Sonography

1 credit hour(s) (Prerequisite: ENG 1101 + MATH 1315 + BIO 2210 + BIO 2310 + IT 1010 + PHYS 1510 + Human Relations Requirement + departmental approval) (Corequisite: DMS 1115 + DMS 1120 + DMS 1125 + DMS 1130 + DMS 1193)

Introduces learners to the field of Diagnostic Medical Sonography. Presents general information about the profession, credentialing, work environments, relationship to other health care professionals, medical and sonographic terminology, pertinent clinical and diagnostic protocols related to specific sonographic exams, the principles of patient care including patient assessment, monitoring, handling, and transporting, infection control, universal precaution procedures. Legal and ethical issues related to sonography are also examined.

DMS 1115 - Sonographic Cross Sectional Anatomy

2 credit hour(s) (Corequisite: DMS 1110 + 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 1110 + DMS 1115 + DMS 1125 + DMS 1130 + DMS 1193)

Emphasis is placed on recognizing the anatomy, physiology and pathology of the peritoneal organs, preverterbral 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 1110 + 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 1110 + 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 1110 + 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

Term 4 (Spring Only)

DMS 1520 - Sonography of the Breast, Superficial and Retroperitoneal Structures

2 credit hour(s) (Prerequisite: DMS 1110 + 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

5 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)

- 225 clinical hours
- Typically offered Spring term only.

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

Term 5 (Summer Only)

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

5 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)

- 225 clinical hours
- Typically offered Summer term only.

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 protcols, interpretation and case analysis with an emphasis on the advanced practice sonographer.
Note(s)

- 45 lab hours

Term 6 (Fall Only)

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

5 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)

- 225 clinical hours

Term 7 (Spring Only)

DMS 2490 - Vascular Clinical

2 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)

- 90 clinical hours

DMS 2690 - Clinical Sonography IV

5 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)

- 225 clinical 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.

Associate of Applied Science in Diagnostic Medical Sonography 74 credit hour(s)

Diesel Equipment Technology

Diesel Equipment Technology, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Career opportunities exist in government, independent repair facilities and dealerships for all aspects of the industry including line technician, field service technician, service writer, service manager, warranty and parts and overhaul specialist. The national shortage of technicians in the diesel truck and heavy equipment fields ensures plentiful employment opportunities with excellent pay and benefits.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 2 Proficiency
- Reading 1 Proficiency

Term 1

DETC 1120 - Heavy Duty Brake Systems

4 credit hour(s) (Prerequisite: ENG 0750 + RDG 0750 + MATH 0930 or appropriate placement scores) (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 1130 - Heavy Duty Suspension and Steering

4 credit hour(s) (Prerequisite: ENG 0750 + RDG 0750 + MATH 0930 or appropriate placement scores) (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 1150 - Diesel Equipment Electrical Systems

4 credit hour(s) (Prerequisite: ENG 0750 + RDG 0750 + MATH 0930 or appropriate placement scores) (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 1110 - Introduction to Diesel Equipment

3 credit hour(s) (Prerequisite: ENG 0750 +RDG 0750 + MATH 0930 or appropriate placement scores)

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

Term 2

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 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 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 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

Term 3

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 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 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 2198 - Diesel Equipment Internship

1 credit hour(s) (Pre- or corequisite: DETC 2120 or departmental 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

Certificate of Completion in Diesel Equipment Technology 40 credit hour(s)

Transportation Technology (AAS), Diesel Equipment Technology Concentration

School of Applied Technologies (AT)

Description

Students who earn certificates in their chosen concentration are encouraged to earn an Associate's 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's 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.

Career and Educational Opportunities

Gainful Employment information is available from Job Connection Services. Career opportunities exist in government, independent repair facilities and dealerships for all aspects of the industry including line technician, field service technician, service writer, service manager, warranty and parts specialist and overhaul specialist. The national shortage of technicians in the both the automotive and the diesel truck and heavy equipment fields ensures plentiful employment opportunities with excellent pay and benefits. Program Exit Competencies For the graduation policy refer to the Graduating From CNM section.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

DETC 1110 - Introduction to Diesel Equipment

3 credit hour(s) (Prerequisite: ENG 0750 +RDG 0750 + MATH 0930 or appropriate placement scores)

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 1120 - Heavy Duty Brake Systems

4 credit hour(s) (Prerequisite: ENG 0750 + RDG 0750 + MATH 0930 or appropriate placement scores) (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 1130 - Heavy Duty Suspension and Steering

4 credit hour(s) (Prerequisite: ENG 0750 + RDG 0750 + MATH 0930 or appropriate placement scores) (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 1150 - Diesel Equipment Electrical Systems

4 credit hour(s) (Prerequisite: ENG 0750 + RDG 0750 + MATH 0930 or appropriate placement scores) (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

Term 2

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 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 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 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

Term 3

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 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 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 2198 - Diesel Equipment Internship

1 credit hour(s) (Pre- or corequisite: DETC 2120 or departmental 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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 4

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

TRDR 1420 - Class B Theory and Operational Practices

9 credit hour(s) (Prerequisite: MATH 0750 + RDG 0750)

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)

- Valid NM Driver's License
- Held a valid driver's license for at least 3 years (some exceptions allowed, contact department)
- Be able to present a valid birth certificate or proof of citizenship
- Be able to present a valid social security card
- No more than 4 moving traffic violations in the last 3 years
- No conviction of or forfeiture of bond for reckless driving
- No more than one at fault preventable accident in the last 3 years
- No DUI/DWI in the last five (5) years
- No more than one (1) DUI/DWI in the last five (5) years
- No more than two (2) DUI/DWI in a lifetime

- Must be a US Citizen or Lawful Permanent Resident

or

AUTC 2250 - Transportation Alternative Fuels

2 credit hour(s) (Prerequisite: RDG 0750 + MATH 0750)

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

and

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.

and

WELD 1062 - Welding Fundamentals

3 credit hour(s) (Recommended prerequisite: AUTC 1240 + DETC 1240 + MATT 1240 + PLMB 1235)

Designed for non-Welding majors, 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.
Note(s)

- 135 lab hours

Term 5

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

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.

or

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

or

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*.

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

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities/Fine Arts Requirement 3 credit hour(s)**

or

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

Associate of Applied Science Degree in Transportation Technology, Concentration in Diesel Equipment Technology 65-69 credit hour(s)

Dietary Manager

Dietary Manager, Certificate of Completion

School of Math, Science & Engineering (MSE)

Description

The Dietary Manager Certificate of Completion is a two-term, 22 - 27 credit hour program that focuses on the principles and practices relating to the administration of food service systems in institutional settings, and that prepares individuals to manage such operations in public and private facilities. 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 program will include instruction in human nutrition, food safety, the design and organization of food service systems, purchasing, and personnel management. The program includes classroom and lab time. Students will complete 180 hours of supervised practice in accredited facilities. 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.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Certificate of Completion program

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- Main Campus

Special Requirements

Students are expected to purchase textbooks. In addition, there are program fees for drug screenings and a criminal background check.

Information for people with felony convictions

- A felony conviction will prevent successful completion of the program. A criminal background check is required for students enrolled in the Dietary Manager Internships which are required for the certificate.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Books: Approximately $900 - $1,100
- Drug Screening and Criminal Background Check Fees: Approximately $100
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Potential Employers

- Nursing facilities, rehab facilities, hospitals, senior living communities, correctional facilities, schools, military, corporations

Prospects for Employment

- Good

Sample Job Titles

- Certified Dietary Manager (CDM), Foodservice Manager and many others

Sample Job Duties

- Manage menus, food purchasing, food preparation, document nutrition information, ensure food safety

Other Courses That May Help Employability/Promotability

- Culinary arts courses and a bachelors degree will improve chances of employment and also result in a higher salary.

Current pay rates

- Average Full-Time salary (2010): $45,423

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CULN 1010 - Food Production and Service Fundamentals

3 credit hour(s) (Pre or corequisite: HT 1101 or CULN 1103)

Provides entry level cooking, baking and service techniques required for basic food operations. Basic culinary math, cooking techniques and knife skills are introduced. Safety, sanitation and customer service are applied in a laboratory setting providing service to the public in a student-run restaurant.
Note(s)

- 30 theory hours
- 45 lab hours

or

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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.

and

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 1103 - Safety and Sanitation Principles

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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.

NUTR 1010 - Personal and Practical Nutrition

3 credit hour(s) (Pre-or corequisite: ENG 0950 or appropriate placement scores)

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.

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 1090 - Dietary Manager Internship I

2 credit hour(s) (Pre- or corequisite: CULN 1103 + NUTR 1010 + NUTR 1015 or departmental 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.

Term 2

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.

NUTR 1091 - Dietary Manager Internship II

2 credit hour(s) (Pre- or corequisite: CULN 1010 +/or CULN 1100 + HT 2201 or department approval)

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 panning, 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.

- **Program Approved Elective 3-4 credit hour(s)**

Certificate in Dietary Manager 22-27 credit hour(s)

Program Approved Electives

HT 2215 - Purchasing and Cost Controls

3 credit hour(s) (Prerequisite: HT 1101 or CULN 1100 or CULN 1010 or department approval) (Recommended pre- or corequisite: 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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

NUTR 1020 - Sports Nutrition

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

This course will explore the role of nutrition in physical performance of competitive and recreational sports participants. This course can be used in place of FITT 1570 - Applied Nutrition for Sport and Exercise for the Fitness Technician program.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

Early Childhood Multicultural Education

Child Development, Certificate of Achievement

School of Communication, Humanities & Social Sciences (CHSS)

Description

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).

Student pursuing the New Mexico Child Development Certificate must be currently working in a child-care setting. In order to qualify 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 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 at (505) 827-7946.

Special Requirements

Students may be required to undergo a TB test and 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. For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Career and Educational Opportunities

Students from all concentrations of studies are employed almost immediately upon graduation. There is tremendous need for well-qualified early care and education workers in some of the following areas: child care, educational assistants, head start and early care teachers, early care administration, early intervention and home visiting. Work is available with programs such as Head Start, Even Start, private and public child-care facilities and preschools serving the needs of children birth to age five. Private and public schools also employ students as educational assistants.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Program Requirements

ECME 1104 - Child Growth Development and Learning

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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 2204 - Assessment of Children and Evaluation of Programs

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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.

Child Development, Certificate of Achievement, 11 credit hour(s)

Early Childhood Multicultural Education (AA), Birth-3rd Grade Teacher Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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).

Student pursuing the New Mexico Child Development Certificate must be currently working in a child-care setting. In order to qualify 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 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 at (505) 827-7946.

Special Requirements

Students may be required to undergo a TB test and 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. For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Career and Educational Opportunities

Students from all concentrations of studies are employed almost immediately upon graduation. There is tremendous need for well-qualified early care and education workers in some of the following areas: child care, educational assistants, head start and early care teachers, early care administration, early intervention and home visiting. Work is available with programs such as Head Start, Even Start, private and public child-care facilities and preschools serving the needs of children birth to age five. Private and public schools also employ students as educational assistants.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- Math 2 Proficiency

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ECME 1102 - Professionalism

2 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1110 - Math for Teachers I

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0930 + RDG 0750 or appropriate placement scores)

Investigates the representation of rational numbers and rational number of arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Explanation and problem solving is emphasized throughout.

or

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; connections to coordinate geometry. Problem solving is emphasized throughout.

or

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

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

Term 2

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

ECME 2201 - Introduction to Language, Literacy and Reading

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

Term 3

ECME 1109 - Curriculum Development through Play: Birth - Age 4

3 credit hour(s)

(Prerequisites: RDG 0750 + ENG 0750) (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.
Note(s)

- Typically offered Fall term only.

ECME 1190 - Curriculum Development Through Play Practicum

2 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750) (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 sucessfully complete the course requirements.
Note(s)

- 45 theory hours
- 45 lab hours

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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

Term 4

ECME 2212 - Curriculum Development and Implementation:Age 3-Grade 3

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950) (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.

ECME 2214 - Guiding Young Children

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2290 - Curriculum Development and Implementation: Age 3-Grade 3 Practicum

2 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950) (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)

- 45 theory hours
- 45 lab hours

- **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 hour(s)

Program Approved Electives

Fine Arts Electives

Select From At Least Two Different Subject Areas.

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

ARTH 2250 - Modern Art

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents interrelationships of three Southwestern cultures emphasizing major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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.

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

Social/Behavioral Science Electives

Select From At Least Two Different Subject Areas.

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Early Childhood Multicultural Education (AA), Early Childhood Program Administration Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Students pursuing a degree in Early Childhood Administration can earn a 7-year provisional 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 at (505) 827-7946.

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 at (505) 827-7946.

Special Requirements

Students may be required to undergo a TB test and 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.

For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Career and Educational Opportunities

Students from all concentrations of studies are employed almost immediately upon graduation. There is tremendous need for well-qualified early care and education workers in some of the following areas: child care, educational assistants, head start and early care teachers, early care administration, early intervention and home visiting. Work is available with programs such as Head Start, Even Start, private and public child-care facilities and preschools serving the needs of children birth to age five. Private and public schools also employ students as educational assistants.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- Math 2 Proficiency

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ECME 1102 - Professionalism

2 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1110 - Math for Teachers I

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0930 + RDG 0750 or appropriate placement scores)

Investigates the representation of rational numbers and rational number of arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Explanation and problem solving is emphasized throughout.

or

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; connections to coordinate geometry. Problem solving is emphasized throughout.

or

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

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

Term 2

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

ECME 2204 - Assessment of Children and Evaluation of Programs

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2220 - Program Management

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

Term 3

ECME 2222 - Effective Program Development for Diverse Learners and their Families

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2490 - Effective Program Development for Diverse Learners and their Families Practicum

2 credit hour(s) (Prerequisite:RDG 0950 + ENG 0950 or appropriate placement scores) (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)

- 1 theory hour
- 1 lab hour

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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

Term 4

ECME 2214 - Guiding Young Children

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2224 - Professional Relationships

3 credit hour(s) (Prerequisites: RDG 0950, ENG 0950 or appropriate placement scores) (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 2590 - Professional Relationships Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (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.
Note(s)

- 1 theory hour
- 1 lab hour

- **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 hour(s)

Program Approved Electives

Fine Arts Electives

Select From At Least Two Different Subject Areas.

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

ARTH 2250 - Modern Art

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents interrelationships of three Southwestern cultures emphasizing major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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.

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

Social/Behavioral Science Electives

Select From At Least Two Different Subject Areas.

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Early Childhood Multicultural Education (AA), Family, Infant, and Toddler Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Students pursuing a degree in Family Infant Toddler Studies can complete a Family Infant and Toddler Studies, Certificate of Achievement while working towards the associates degree. Students who complete this certificate are eligible to apply for a Family Infant Toddler Studies Certificate offered by the New Mexico Office of Child Development. For more information, contact the Office of Child Development at (505) 827-7946.

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 at (505) 827-7946.

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/

Career Opportunities

Students from all concentrations of studies are employed almost immediately upon graduation. There is tremendous need for well-qualified early care and education workers in some of the following areas: home visiting, early intervention, infant and toddler child care, educational assistants, and early head start. Work is available with programs such as Head Start, Even Start, private and public child-care facilities and preschools serving the needs of children birth to age five. Private and public schools also employ students as educational assistants. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ECME 1102 - Professionalism

2 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1110 - Math for Teachers I

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0930 + RDG 0750 or appropriate placement scores)

Investigates the representation of rational numbers and rational number of arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Explanation and problem solving is

emphasized throughout.

or

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; connections to coordinate geometry. Problem solving is emphasized throughout.

or

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

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

Term 2

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze,

develop and facilitate effective communication.

ECME 2204 - Assessment of Children and Evaluation of Programs

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2230 - Infant-Toddler Growth Development and Learning

3 credit hour(s) (Prerequisites: RDG 0950, ENG 0950; or appropriate placement scores, see ***Prerequisite Requirement Guide***.) (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.

ECME 2690 - Infant-Toddler Growth, Development and Learning Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: ECME 2230)

Provides application of knowledge gained from ECME 2230. Students must pass a background check to successfully complete the course requirements.
Note(s)

- 1 theory hour
- 1 lab hour

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

Term 3

ECME 2232 - Family Infant Toddler Professionals Families and Communities

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + ECME 2230 + ECME 2690 or appropriate

placement scores) (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.

ECME 2790 - Family Infant Toddler Professionals Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: ECME 2232)

Provides application of knowledge gained from ECME 2232. Students must pass a background check to successfully complete the course requirements.
Note(s)

- 1 theory hour
- 1 lab hour

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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 2234 - Caregiving for Infants and Toddlers

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 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.
Note(s)

- Typically offered Summer term only.
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**

Associate of Arts in Early Childhood Multicultural Education, Family, Infant, and Toddler Concentration 64 credit hour(s)

Early Childhood Program Administration, Certificate of Completion

School of Communication, Humanities & Social Sciences (CHSS)

Career Opportunities

A certificate in Early Childhood Program Administration is intended for students interested in becoming an early childhood center director, assistant director, or running a home-based child care program. For professionals currently in the field, this certificate will enhance their ability to run a high quality early childcare program. Students pursuing this certificate are encouraged to complete the Early Childhood Multicultural Education associates degree with a concentration in Program Administration.

Students who complete this certificate are eligible to apply for an Early Childhood Program Administration 7-Year Provisional Certificate offered by the New Mexico Office of Child Development and meets CYFD regulations for director qualifications. For more information, contact the Office of Child Development at (505) 827-7946.

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 at (505) 827-7946.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Required Courses

ECME 1104 - Child Growth Development and Learning

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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 2220 - Program Management

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (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) (Prerequisites: RDG 0950, ENG 0950 or appropriate placement scores) (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 2490 - Effective Program Development for Diverse Learners and their Families Practicum

2 credit hour(s) (Prerequisite:RDG 0950 + ENG 0950 or appropriate placement scores) (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)

- 1 theory hour
- 1 lab hour

ECME 2590 - Professional Relationships Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (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.
Note(s)

- 1 theory hour
- 1 lab hour

Certificate of Completion in Early Childhood Multicultural Education, Program Administration Concentration, 16 credit hour(s)

Family Infant and Toddler Studies, Certificate of Achievement

School of Communication, Humanities & Social Sciences (CHSS)

Career Opportunities

A certificate in Family Infant Toddler 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 associates degree with a concentration in Family Infant Toddler Studies.

Students who complete this certificate are eligible to apply for a Family Infant Toddler Studies Certificate offered by the New Mexico Office of Child Development. For more information, contact the Office of Child Development at (505) 827-7946.

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 at (505) 827-7946.

Students completing the associate degree in Family, Infant and Toddler Studies may apply for initial certification as a Developmental Specialist I Advanced at nmhealth.org/ddsd/nmfit

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Required Courses

ECME 2230 - Infant-Toddler Growth Development and Learning

3 credit hour(s) (Prerequisites: RDG 0950, ENG 0950; or appropriate placement scores, see ***Prerequisite Requirement Guide***.) (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.

ECME 2232 - Family Infant Toddler Professionals Families and Communities

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + ECME 2230 + ECME 2690 or appropriate placement scores) (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.

ECME 2234 - Caregiving for Infants and Toddlers

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 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.
Note(s)

- Typically offered Summer term only.

ECME 2690 - Infant-Toddler Growth, Development and Learning Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: ECME 2230)

Provides application of knowledge gained from ECME 2230. Students must pass a background check to successfully complete the course requirements.
Note(s)

- 1 theory hour
- 1 lab hour

ECME 2790 - Family Infant Toddler Professionals Practicum

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)
(Corequisite: ECME 2232)

Provides application of knowledge gained from ECME 2232. Students must pass a background check to successfully complete the course requirements.
Note(s)

- 1 theory hour
- 1 lab hour

Certificate of Achievement in Early Childhood Multicultural Education, Family Infant and Toddler Concentration 13 credit hour(s)

Electrical Trades

Electrical Trades (AAS), Photovoltaic (PV) Concentration

School of Applied Technologies (AT)

Description

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.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 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)

(Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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) (Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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

Term 2

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

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 corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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

Term 3

ELTR 2005 - Electrical Theory III

4 credit hour(s) (Prerequisites: 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) (Prerequisites: 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 corequisites: ELTR 2005 + ELTR 2015 or department approval) (Corequisites: 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

Term 4

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, life saving 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 corequisites: 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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 5

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities Requirement 3 credit hour(s)**

or

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Associate of Applied Science in Construction Technology, Electrical Photovoltaic Installation Concentration
69-70 credit hour(s)

Electrical Trades (AAS), Programmable Logic Controls (PLC) Concentration

School of Applied Technologies (AT)

Description

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 electral industry.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 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)

(Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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) (Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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

Term 2

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

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 corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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

Term 3

ELTR 2005 - Electrical Theory III

4 credit hour(s) (Prerequisites: 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) (Prerequisites: 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 corequisites: ELTR 2005 + ELTR 2015 or department approval) (Corequisites: 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

Term 4

ELTR 2210 - Programmable Logic Controller Theory

4 credit hour(s) (Pre- or corequisites: 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 corequisites: ELTR 2210 + ELTR 2020) (Corequisites: 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 corequisites: ELTR 2210 + ELTR 2020 or department approval) (Corequisites: 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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 5

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Associate of Applied Science in Electrical Trades, Programmable Logic Controls (PLC) 67-68 credit hour(s)

Electrical Trades (Certificate of Completion), General Concentration

School of Applied Technologies (AT)

Description

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.

Special Requirements

Students must have normal color differentiation. Electricians work with identified colored wires requiring accurate connections. The moving and installation of electrical materials and equipment necessitate that the electrical worker be able to lift at least 50 pounds. Electrical workers may work in various internal and external environments and should be free of chronic respiratory diseases and allergies. Most employers require a valid driver's license and clean driving record. Please contact the School of Applied Technologies (AT) for required tool list.

Fees: Course fees are published in the *Schedule of Classes*. These fees cover the cost of tools required for lab activities.

Career and Educational Opportunities

The New Mexico Department of Workforce Solutions predicts a continued increase in the demand for electrical workers for years to come. The Department of Workforce Solutions reports that the starting wages for electrical workers range from $14.51 to $24.68 per hour or $30,180 to $51,318 annually. Coursework from Electrical Trades/Residential Wiring may be applied toward the Associate of Applied Science Degree in Construction Technology.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 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)

(Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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) (Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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

Term 2

ELTR 1215 - Blueprint Reading I

4 credit hour(s) (Pre- or corequisites: 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 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 1220 - Residential Wiring Lab

3 credit hour(s) (Pre- or corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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

Term 3

ELTR 2005 - Electrical Theory III

4 credit hour(s) (Prerequisites: 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) (Prerequisites: 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 corequisites: ELTR 2005 + ELTR 2015 or department approval) (Corequisites: 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

Certificate of Completion in Electrical Trades 42 credit hour(s)

Electrical Trades (Certificate of Completion), Photovoltaic Installation Concentration

School of Applied Technologies (AT)

Description

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.

Special Requirements

Students must have normal color differentiation. Electricians work with identified colored wires requiring accurate connections. The moving and installation of electrical materials and equipment necessitate that the electrical worker be able to lift at least 50 pounds. Electrical workers may work in various internal and external environments and should be free of chronic respiratory diseases and allergies. Most employers require a valid driver's license and clean driving record. Please contact the School of Applied Technologies (AT) for required tool list.

Fees: Course fees are published in the *Schedule of Classes*. These fees cover the cost of tools required for lab activities.

Career and Educational Opportunities

The New Mexico Department of Workforce Solutions predicts a continued increase in the demand for electrical workers for years to come. The Department of Workforce Solutions reports that the starting wages for electrical workers range from $14.51 to $24.68 per hour or $30,180 to $51,318 annually. Coursework from Electrical Trades/Residential Wiring may be applied toward the Associate of Applied Science Degree in Construction Technology.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 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)

(Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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) (Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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

Term 2

ELTR 1215 - Blueprint Reading I

4 credit hour(s) (Pre- or corequisites: 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 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 1220 - Residential Wiring Lab

3 credit hour(s) (Pre- or corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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

Term 3

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, life saving 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 corequisites: 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

Certificate of Completion in Electrical Trades Photovoltaic Installation 40 credit hour(s)

Electrical Trades (Certificate of Completion), Programmable Logic Controls (PLC) Concentration

School of Applied Technologies (AT)

Description

The Electrical-Programmable Logic Controls (PLC) Certficate 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.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 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)

(Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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) (Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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

Term 2

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 corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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

Term 3

ELTR 2005 - Electrical Theory III

4 credit hour(s) (Prerequisites: 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) (Prerequisites: 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 corequisites: ELTR 2005 + ELTR 2015 or department approval) (Corequisites: 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

Term 4

ELTR 2210 - Programmable Logic Controller Theory

4 credit hour(s) (Pre- or corequisites: 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 corequisites: ELTR 2210 + ELTR 2020) (Corequisites: 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 corequisites: ELTR 2210 + ELTR 2020 or department approval) (Corequisites: 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

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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)

Description

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.

Special Requirements

Students must have normal color differentiation as electricians work with identified colored wires requiring accurate connections. The moving and installation of electrical materials and equipment necessitate that the electrical worker be able to lift at least 50 pounds. Electrical workers may work in various internal and external environments and should be free of chronic respiratory diseases and allergies. Most employers require a valid driver's license and clean driving record. Please contact Program Director for a list of required tools.

Fees: Program fees are published in the *Schedule of Classes*. These fees cover the cost of tools required for lab activities.

Career and Educational Opportunities

The New Mexico Department of Workforce Solutions predicts a continued increase in the demand for electrical workers for years to come. One hundred percent of CNM Electrical Trades graduates obtained employment in the electrical trade in 2007- 2008. The Department of Workforce Solutions reports that the starting wages for electrical workers range from $14.51 to $24.68 per hour or $30,180 to $51,318 annually. Coursework from Electrical Trades/Residential Wiring may be applied toward the Associate of Applied Science Degree in Construction Technology.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

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) (Prerequisites: ENG 0750 + RDG 0750 + MATH 0750 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)

(Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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) (Prerequisites: ENG 0750 or appropriate placement score) (Pre- or corequisites: 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

Term 2

ELTR 1215 - Blueprint Reading I

4 credit hour(s) (Pre- or corequisites: 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 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 1220 - Residential Wiring Lab

3 credit hour(s) (Pre- or corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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 corequisites: ELTR 1215 + ELTR 1210 or department approval) (Corequisites: 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

Certificate of Completion in Residential Wiring 28 credit hour(s)

Electronic Health Record

Electronic Health Record, Certificate of Completion

Description

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.

Special Requirements

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

Graduates with this certificate would be able to be employed in acute care settings, nursing homes, rehabilitation hospitals, clinics, physicians' offices, anywhere the medical record is kept.

The health information field has opportunities in hospital medical records/health information departments, clinics, physician offices, long-term care facilities, ambulatory care facilities, managed care organizations, insurance agencies, state health departments, the federal government, entrepreneurship and private industry. Additional career information is available from the American Health Information Management Association.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210
- Reading 2 Proficiency

Term 1

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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) (Pre- or corequisite: ENG 0950 + MATH 0930 + RDG 0950 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, accrediation and licensure standards applicable to health records.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

Term 2

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.

EHR 1010 - Introduction to Electronic Health Record

3 credit hour(s) (Prerequisite: HIT 1020 + HIT 1030 + IT 1010 + OTEC 1175)

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

HIT 1060 - Health Information Management Systems

3 credit hour(s) (Prerequisites: IT 1010 + OTEC 1175 + 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 theory 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.

Term 3

CIS 1610 - Configuring Windows Client

3 credit hour(s)

(Prerequisite: IT 1010) (Recommended course: CIS 1420)*

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 MCSA certification. Version taught subject to change. Please check with the School of Business & Information Technology.

* Students are expected to know basic networking technology and terminology.
Note(s)

- 30 theory hours
- 45 lab hours

EHR 1090 - Electronic Health Record Practicum

4 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 techonology used to maintain the electronic health record. This is an unpaid work experience.

HIT 2040 - Health Information Data Analysis

3 credit hour(s) (Prerequisites: 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.

Certificate of Completion in Electronic Health Record 34 credit hour(s)

Emergency Medical Services

Community Paramedic, Certificate of Completion

School of Health, Wellness & Public Safety (HWPS)

Description

This certificate program is designed for paramedics with at least five years of experience to advance to the level of community paramedic

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.

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, initial treatment/counseling in the event of a needle stick or exposure to bodily fluids, 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

This certificate is designed to provide people who are already paramedics the ability to be employed as community paramedics.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

HLTH 1030 - Introduction to Community Health Care

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

CEMS 2020 - Social Determinants of Health

2 credit hour(s) (Pre- or corequisite: CEMS 2050)

The Community Paramedic 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) (Pre- or corequisite: CEMS 2050)

There are many factors to developing outreach programs that meet the needs of clients and their communities. The Community Paramedic 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: departmental 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.

Term 2

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: departmental 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.

Certificate of Completion in Community Paramedic 21 credit hour(s)

Emergency Medical Services (AAS), Paramedic Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

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 advisor for more information.

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

This program allows students to take the National Registry paramedic certification exam.

The CNM Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency

- Math 2 Proficiency

or

- MATH 1310 (Recommended)

- Reading 2 Proficiency

Required Courses

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1330 Recommended)

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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.

and

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

and

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

or

EMS 1412 - Advanced EMT (EMT-I) Theory

6 credit hour(s)

(Prerequisite: EMS 1053 + EMS 1093 + EMS 1190* + RDG 0950 or appropriate placement scores + department approval) (Pre- or corequisite: 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)

and

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

and

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 1

This 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 advisor for more information.

EMS 2103 - Human Systems Pathophysiology and Development

3 credit hour(s) (Prerequiste: BIO 1410 + EMS 1190 or EMS 1890 + department approval)

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.

or

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

EMS 2203 - Drug Calculations

1 credit hour(s) (Prerequisite: BIO 1410 + EMS 1190 or EMS 1890 + ENG 1101 or ENG 1102 or ENG 1119 + IT 1010 + AAS Mathematics Requirement + PSY 1105 + department approval) (Corequisite: EMS 2207 + EMS 2213 + EMS 2217 + EMS 2223 + EMS 2291)

This course presents with dosage calculation methods for enteral and parenteral medications, including intravenous therapy and pediatric dosages in the EMS environment. Focuses on those calculations used in an emergency situation 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 2207 - Legal Issues and Report Writing

2 credit hour(s) (Corequisite: EMS 2203 + EMS 2213 + EMS 2217 + EMS 2223 + EMS 2291)

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 2203 + EMS 2207 + EMS 2217 + EMS 2223 + EMS 2291)

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) (Corequisite: EMS 2203 + EMS 2207 + EMS 2213 + EMS 2223 + EMS 2291)

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 2203 + EMS 2207 + EMS 2213 + EMS 2217 + EMS 2291)

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 - Intro Paramedic Lab

2 credit hour(s) (Corequisite: EMS 2203 + EMS 2207 + EMS 2213 + EMS 2217 + EMS 2223)

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)

Term 2

EMS 2303 - Cardiovascular Theory

3 credit hour(s) (Prerequisite:EMS 2103 or BIO 2310 + EMS 2203 + EMS 2207 + EMS 2213 + EMS 2217 + EMS 2223 + EMS 2291) (Pre- or corequisite: EMS 2307 + EMS 2313 + EMS 2390 + EMS 2393 + EMS 2490)

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 2313 + EMS 2390 + EMS 2393 + EMS 2490)

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 2303 + EMS 2307 + EMS 2390 + EMS 2393 + EMS 2490)

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 2380 - Clinical Review I (CR/NC)

1 credit hour(s) (Corequisite: EMS 2390 + EMS 2490)

This course allows time for clinical case review in a classroom setting. Patient assessment strategies, skill performance, and documentation will be reviewed. The course will address patients of all age groups with various medical or traumatic conditions. This course will have an adult focus.

EMS 2390 - Hospital Clinical I

2 credit hour(s) (Pre- or corequisite: EMS 2303 + EMS 2307 + EMS 2313 + EMS 2393 + EMS 2490)

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)

- Criminal background/drug check required.
- 90 clinical hours

EMS 2393 - Paramedic Lab I

3 credit hour(s) (Pre- or corequisite: EMS 2303 + EMS 2307 + EMS 2313 + EMS 2390 + EMS 2490)

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

EMS 2490 - Prehospital Field Clinical I

3 credit hour(s) (Pre- or corequisite: EMS 2303 + EMS 2307 + EMS 2313 + EMS 2390 + EMS 2393)

Prepares the paramedic student 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. Under the direction of a field preceptor, the student will learn to safely manage the scene of a prehospital emergency. The student will arrange EMS field time through the clinical coordinator.
Note(s)

- 135 clinical hours

Term 3

EMS 2503 - Pediatric and Gynecology Theory

3 credit hour(s) (Prerequisite: EMS 2303 + EMS 2307 + EMS 2313 + EMS 2390 + EMS 2393 + EMS 2490 + EMS 2490) (Pre- or corequisite: EMS 2507 + EMS 2513 + EMS 2590 + EMS 2593 + EMS 2690 + EMS 2999)

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 2513 + EMS 2590 + EMS 2593 + EMS 2690 + EMS 2999)

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 2503 + EMS 2507 + EMS 2590 + EMS 2593 + EMS 2690 + EMS 2999)

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 2580 - Clinical Review II (CR/NC)

1 credit hour(s) (Corequisite: EMS 2590 + EMS 2690)

This course allows time for clinical case review in a classroom setting. Patient assessment strategies, skill performance, and documentation will be reviewed. The course will address patients of all age groups with various medical or traumatic conditions. This course will have a pediatric focus.

EMS 2590 - Hospital Clinical II

1 credit hour(s) (Pre- or corequisite: EMS 2503 + EMS 2507 + EMS 2513 + EMS 2593 + EMS 2690 + EMS 2999)

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)

- 45 clinical hours

EMS 2593 - Paramedic Lab II

2 credit hour(s) (Pre- or corequisite: EMS 2503 + EMS 2507 + EMS 2513 + EMS 2590 + EMS 2690 + EMS 2999)

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

EMS 2690 - Prehospital Field Clinical II

4 credit hour(s) (Pre- or corequisite: EMS 2503 + EMS 2507 + EMS 2513 + EMS 2590 + EMS 2593 + EMS 2999)

Prepares the 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. Under the direction of a field preceptor, the student will learn to safely manage the scene of a prehospital emergency. The student will arrange EMS field time through the clinical coordinator.
Note(s)

- 180 clinical hours

EMS 2999 - Paramedic Capstone

1 credit hour(s) (Pre- or corequisite: EMS 2503 + EMS 2507 + EMS 2513 + EMS 2590 + EMS 2593 + EMS 2690)

The final lab course is for the paramedic student to prepare for the National Registry paramedic exam. Successful completion of this course will allow the student to receive a paramedic completion certificate and take the paramedic exam. Knowledge and skills from the core curriculum courses will be incorporated into the review process to include skills testing, practice test review and scenario testing.
Note(s)

- 45 lab hours

Associate of Applied Science in Emergency Medical Services, Paramedic 72-74 credit hour(s)

Emergency Medical Services (Certificate of Completion), Intermediate Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

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.

Special Requirements

Department Approval Required

In the interest of promoting successful course completion and advancing the job skills of licensed EMT-Basics, department approval is placed on EMT-Intermediate theory and lab. This registration requirement remains in effect until the open registration date of each term. EARLY department approval and registration will be granted to currently licensed New Mexico EMT-Basics. Current licensure status will be verified using the NM EMS License Verification Report. On or after the open enrollment date of each term the department approval requirement will be removed, thus opening registration access to all qualified students on a first-come, first serve basis. This will make EMT-Intermediate accessible to continuing EMT-Basic students who are waiting to take their state licensure exam. Please know that obtaining early department approval in no way guarantees a seat in the course. There are only a limited number of available seats due to factors such as clinical availability and job placement. Please contact the School of Health, Wellness & Public Safety (HWPS) for department override requests. The following information will be needed: NM EMT Basic License number, expiration date and CNM Student ID number.

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

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Department Approval Program
- English 2 Proficiency

- Math 2 Proficiency

or

- MATH 1310 (Recommended)

- Reading 2 Proficiency

Required Courses

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommend)*

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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 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 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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

Term 1

EMS 1412 - Advanced EMT (EMT-I) Theory

6 credit hour(s)

(Prerequisite: EMS 1053 + EMS 1093 + EMS 1190* + RDG 0950 or appropriate placement scores + department approval) (Pre- or corequisite: 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

Term 2

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

Emergency Medical Services – Intermediate, Certificate of Completion 26-27 credits hour(s)

* Recommend if planning on transferring to a 4-year degree.

Emergency Medical Technician: Basic (EMT-B)

School of Health, Wellness & Public Safety (HWPS)

Special Requirements

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.).

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- High School Diploma or Equivalent
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Courses

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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 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 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

First Responder

School of Health, Wellness & Public Safety (HWPS)

Program Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

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) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

EMS 1001 - EMS First Responder Theory

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores) (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 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

Engineering

Engineering, Associate of Science

School of Math, Science & Engineering (MSE)

Description

The engineering degree includes foundation courses in math and the sciences, introducing the concepts and methods of engineering. The associate's 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.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Associate of Science degree program

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- Main Campus

Special Requirements

Students are expected to purchase textbooks, lab manuals and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3000
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1410
- MATH 1415
- Reading 2 Proficiency

Term 1

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

ENGR 1010 - Survey of Engineering Fields

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement score)

Introduces the engineering design process and exploration of careers in engineering.
Note(s)

- Previously ENGR 101

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

Term 2

CSCI 1151 - Introduction to Programming for Non-Computer Science Majors

4 credit hour(s) (Prerequisite: MATH 1415)

Designed for non-computer science majors interested in programming, or developing useful problem solving skills; explores the relationship between programming and problem solving using programming languages.

or

CSCI 1153 - Programming in Matlab

4 credit hour(s) (Prerequisite: MATH 1415 or higher)

An introduction to computing. The objective of the course is to help students understand of the relationship between computing and problem solving. A general understanding of matrices and basic computer knowledge are beneficial for success in this course.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

MATH 1715 - Calculus II

4 credit hour(s) (Prerequisite: MATH 1710)

Continues 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.

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

Term 3

- **Approved Program Elective 3-4 credit hour(s)**

MATH 2710 - Calculus III

4 credit hour(s) (Prerequisite: MATH 1715)

Continues course of study begun in MATH 1715 - Calculus II, including multivariate and vector calculus: level curves and surfaces, partial derivatives, gradients, tangent planes, directional derivatives, multiple integrals, cylindrical and spherical coordinates, applications. A Graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

PHYS 1810 - Physics for Scientists and Engineers II

4 credit hour(s)

(Prerequisite: PHYS 1710) (Recommended course: PHYS 1892)* (Pre- or corequisite: MATH 1715)

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 - Physics for Scientists and Engineers II Laboratory

1 credit hour(s) (Corequisite: PHYS 1810)

Focuses on experiments in electricity, magnetism, optics.
Note(s)

- 45 lab hours

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

Term 4

- **Approved Program Elective 3 credit hour(s)**

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

Surveys theories and problems of economic policy, including the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Humanities Requirement 3 credit hour(s)**

MATH 2910 - Applied Ordinary Differential Equations

3 credit hour(s) (Prerequisite: MATH 1715)(Recommended course: MATH 2710)

Includes the elementary theory of ordinary differential equations, numerical methods, phase plane analysis, introduction to transform methods.
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!

Term 5

- **Approved Program Elective 6 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**

Associate of Science in Engineering 73-74 credit hour(s)

Approved Program Electives

** This course is used to transfer approved courses from other colleges and universities

ACCT 1110 - Accounting I

6 credit hour(s)

(Recommended course: RDG 0950)* (Pre- or corequisite: ACCT 1109 or MATH 1315 or higher)

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)

- ACCT 1111 + ACCT 1112 are equivalent to this course.
- Typically offered Fall and Spring term only

BIO 1010 - Biology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

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 course: 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 2710 - Organic Chemistry I

3 credit hour(s) (Prerequisite: CHEM 1810/CHEM 1892)

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.

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

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 2710 - Thermodynamics

3 credit hour(s) (Prerequisites: CHEM 1810/CHEM 1892 + 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) (Prerequisites: PHYS 1710)

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

3 credit hour(s) (Prerequisites: CSCI 1151 or CSCI 1152 or CSCI 1153) (Pre- or corequisite: PHYS 1810 + MATH 2910)

Through lecture and laboratory experiences, 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, sinusodial sources and complex representations and three phase circuits.
Note(s)

- Previously ENGR 203

ENGR 2915 - Circuit Analysis II

3 credit hour(s) (Prerequisite: ENGR 2910 + MATH 2910)

Continuation of ENGR 2910 - Circuit Analysis. 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). Thevenin's and Norton's theorems.

EPS 1101 - Introduction to Geology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

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. 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!

PHYS 2710 - Physics for Scientists and Engineers 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.

English

English, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

This educational option is a

- Associate of Arts Degree.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Meeting 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.

This educational option can be started

- Any term.

Primary course location

- Any CNM Campus.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000.
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Students planning to transfer to the University of New Mexico (UNM) should keep in mind that the UNM English program offers various concentrations within English.

Students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students should always refer to the catalog of their intended transfer institution for admission, program, course, and graduation requirements.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Fine Arts Requirement 3 credit hour(s)**
- **Modern Language Elective 4 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

Term 3

ENG 1150 - Study Of Literature

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Introduces the academic study of literature.

or

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.

or

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 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 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

or

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.

- **Laboratory Science Requirement 4 credit hour(s)**

Term 4

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 9 credit hour(s)**

- **Program Approved Elective 3 credit hour(s)**

Associate of Arts in English 60-61 credit hour(s)

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

The University of New Mexico (UNM) requires all English Majors to take ENG 2250 - Analysis of Literature. UNM has added early and late literature core requirements. Students must complete one (1) course from each of the following sequences to meet the early and late literature core requirements:

One class from the Early Literature Core Requirement list:

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.

or

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.

or

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.

And one from the Late Literature Core Requirement list:

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.

or

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.

or

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

Adult Basic Education (ABE) ESL Program

School of Adult & General Education (SAGE)

Description

The Adult Basic Education (ABE) English as a Second Language (ESL) program offers 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 Literacy level to Advanced. Other courses that the program offers are Integrated (multi-level) courses and Citizenship. 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.

Special Requirements

Students registering for ESL classes are required to participate in orientation and take the CASAS (Comprehensive Adult Student Assessment System) test to determine the appropriate course level. The CASAS test takes approximately two hours to complete.

Students who are enrolled only in ESL courses receive the same services as other CNM students (for example, library access), but are not eligible for financial aid. Also, students registering for ESL classes do not follow the procedures outlined in this catalog for admission and registration. Interested students should contact the School of Adult & General Education for more information.

Career and Educational Opportunities

English as a Second Language (ESL) courses prepare students for higher education, job advancement, or personal fulfillment.

English as a Second Language (ESL) Course Options

Course placement and order based on CASAS test results.

Core Courses

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 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 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.

Next Level Courses

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

English for Speakers of Other Languages

Description

The School of Adult and General Education (SAGE) provides college-credit ESOL (English for Speakers of Other Languages) classes designed for non-native speakers of English to prepare students for college-level reading and writing. In ESOL classes, instructors devote time to explicitly teaching grammar and vocabulary, teach listening and speaking skills, spend time on aspects of American culture that impact college students, assist students in comparing cultural differences in academic writing styles and expectations, consider cultural differences related to academic honesty, and teach various genres of writing through guided practice.

ESOL 0350 and 0450 are repeatable for-credit courses that do not serve as prerequisites to other courses in SAGE's DE program. In ESOL 0651 students analyze English sentences based on the principles and concepts of grammar. ESOL 0551, 0751 and 0951 serve as prerequisites to other DE courses in SAGE, and they may be taken in place of ENG 0550, 0750 and 0950, respectively.

Special Requirements

Students registering for ESOL classes should have some understanding of academic English skills (reading, writing, speaking and listening).

Career and Educational Opportunities

English for Speakers of Other Languages (ESOL) courses prepare students for higher education, job advancement, or personal fulfillment.

Entrepreneurship

Entrepreneurship, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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.

Career Opportunities

Small business development.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1410 - Quickbooks Complete

3 credit hour(s) (Recommended course: ACCT 1111)

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.
Note(s)

- Previously ACCT 1411 + ACCT 1412 + ACCT 1413
- This course must be taught in a computer lab classroom

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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.

or

HT 1101 - Introduction to Tourism

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Recommended pre- or corequisite: IT 1010)

Provides a broad overview of travel and tourism development, operations, and career opportunities.

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

or

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

BA 2103 - Entrepreneurship and Business Plan Development

6 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 2222 - Principles of Marketing

3 credit hour(s) (Prerequisites: (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 2240 - Business Law

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

Certificate of Completion in Entrepreneurship 21 credit hour(s)

Film Technician

Film Crew Technician, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career Opportunities

Gainful Employment information is available from Job Connection Services. Graduates from the Film Crew Technician Program will be prepared for entry-level crew positions in motion pictures, television and electronic media production. The Film Crew Technician Program is offered in collaboration with the New Mexico Film Office and IATSE Local 480. Graduates from the Post Production Technician Program will be prepared to enter careers in many areas of developing visual media production across a wide variety of delivery platforms and formats. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course

work.

- English 1 Proficiency
- Reading 1 Proficiency
- Math 1 Proficiency

Term 1

FILM 1001 - Introduction to Film and Media Workflow

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 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)

Exploring the various crafts and skills of the "below the line" component of the film industry.
Note(s)

- 30 theory hours
- 45 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 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)

- Previously FILM 1192
- 45 theory hours
- 45 lab hours

Term 2

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

Certificate of Completion in Film Crew Technician 28 credit hour(s)

Post Production Technician, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Special Requirements

Many class assignments will require sitting for long periods of time.

Career and Educational Opportunities

Graduates will be prepared to enter careers in many areas of developing visual media production across a wide variety of delivery platforms and formats.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **High School Diploma or Equivalent**
- English 1 Proficiency
- Math 1 Proficiency
- Reading 2 Proficiency

Term 1

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.

FILM 1001 - Introduction to Film and Media Workflow

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 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)

Exploring the various crafts and skills of the "below the line" component of the film industry.
Note(s)

- 30 theory hours
- 45 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 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)

- Previously FILM 1192
- 45 theory hours
- 45 lab hours

Term 2

CIS 2336 - Post Production Special Effects

3 credit hour(s) (Prerequisite: CIS 1310 or department approval)

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)

- 30 theory hours
- 45 lab hours

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)

- 20 theory hours
- 30 lab 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.

Certificate of Completion in Post Production Technician 31 credit hour(s)

Fine Arts

Fine Arts (AA), Art History Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Educational Option Information

This educational option is a

- Associate of Arts.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Meeting the requirements for an Associate of Fine Arts, with Concentration in Art History, from CNM and prepare a student to obtain a Bachelor of Fine Arts or related degree.

This educational option can be started

- Any term.

Primary course location

- All CNM Campuses.

Cost and Financial Aid

This program is eligible for Financial Aid.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Tools

- This cost is approximately $300.00.

Career and Educational Opportunities

Educational Opportunities

The Associates Degree is an important milestone for student pursuing either a baccalaureate degree or a graduate degree in the field. Core requirements for the baccalaureate are met through completion of the CNM Associate of Arts degree.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTS 1106 - Drawing I

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

or

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, ornamental. Aesthetictechnological connections in cultural context.
Note(s)

- 45 theory hours
- 15 lab hours

- Humanities Requirement **3 credit hour(s)** (HIST 1101 or HIST 1102 Recommended)*****

Term 2

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

ARTS 1121 - Two-Dimensional Design

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

ARTS 1125 - Art Practices I

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950)

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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Fine Arts Elective 3 credit hour(s)** (THEA or MUS Course Recommended)*****

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

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Modern Language Elective 4 credit hour(s)**
- Laboratory Science Requirement **4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**
- **Social/Behavioral Science 3 credit hour(s)**

Term 4

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.
- Laboratory Science Requirement **4 credit hour(s)**
- **Program Approved Elective 6 credit hour(s)**

Associate of Arts in Fine Arts, Art History Concentration 60-61 credit hour(s)

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.

***** Recommended for UNM transfer.

Program Approved Electives

Choose from the following list of courses

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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 2250 - Modern Art

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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.

Fine Arts (AA), Art Studio Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Educational Option Information

This educational option is a

- Associate of Arts.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Meeting the requirements for an Associate of Fine Arts, with Concentration in Art Studio, from CNM and prepare a student to obtain a Bachelor of Fine Arts or related degree.

This educational option can be started

- Any term.

Primary course location

- Main Campus, Westside Campus and Montoya Campuses have full art studios.

Cost and Financial Aid

This program is eligible for Financial Aid.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Tools

- Students may be required to purchase materials for art studio courses.
- This cost is approximately $300.00.

Career and Educational Opportunities

Educational Opportunities

The Associates Degree is an important milestone for student pursuing either a baccalaureate degree or a graduate degree in the field. Core requirements for the baccalaureate are met through completion of the CNM Associate of Arts degree.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Sample Job Titles

- Professional Artists/Craftsman
- Museum Preparator
- Gallery Attendant
- Custom Framer
- Art Supply Sales
- Tattoo Artist
- Sign Painter

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ARTS 1106 - Drawing I

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ARTS 1121 - Two-Dimensional Design

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

ARTS 1125 - Art Practices I

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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, ornamental. Aesthetictechnological connections in cultural context.
Note(s)

- 45 theory hours
- 15 lab hours

or

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

Term 2

ARTS 1122 - Three-Dimensional Design

3 credit hour(s)

(Prerequisite: RDG 0950 + ARTS 1106 or appropriate placement scores)

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)

- Typically offered Fall and Spring Semester only.

or

ARTS 1126 - Art Practices II

3 credit hour(s)

(Prerequisites: RDG 0950 + ENG 0950 + ARTS 1121 or ARTS 1125)

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)

- Typically offered Fall and Spring Semester 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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)** (HIST 1101 or HIST 1102 Recommended)*

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Art History Elective 3 credit hour(s)**
- **Program Approved Art Studio Elective 3 credit hour(s)**
- **Social/Behavioral Science 3 credit hour(s)**

Term 4

ARTS 2210 - Art Career Concerns

3 credit hour(s)

(Prerequisites: ARTS 2206 or ARTS 2207 or ARTS 1168)

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 semester only.

- **Modern Language Elective 4 credit hour(s)**

- Laboratory Science **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 hour(s)

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. ARTS Practices 1125 and ARTS Practices 1126 are required for transfer to UNM. (ARTS 1121 and ARTS 1122 are not direct transfers to UNM; ARTS 2214 may not transfer directly to UNM.) *The UNM College of Fine Arts requires HIST 1101 or HIST 1102 for their bachelor's degrees. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

* Recommended for UNM transfer.

Program Approved Electives

Art History Electives

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

ARTH 2250 - Modern Art

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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 Electives

ARTS 1168 - Ceramics I

3 credit hour(s)

(Prerequisite: ARTS 1122 or ARTS 1126)

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)

- Offered at Westside Campus only

ARTS 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*.

ARTS 2204 - Life Drawing I

3 credit hour(s)

(Prerequisites: ARTS 1106 + RDG 0950 or appropriate placement scores)

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)

- Typically offered Fall and Spring Semesters only.

ARTS 2206 - Printmaking I

3 credit hour(s) (Prerequisites: RDG 0950 + ARTS 1106 + ARTS 1121 or ARTS 1125 or appropriate placement scores)

Introduces the fundamental methods of printmaking. Explores techniques and creative aspects of monotype, collagraph, relief and intaglio printmaking. Discusses lithography and screen printmaking.

ARTS 2207 - Painting I

3 credit hour(s) (Prerequisite: RDG 0950 + ARTS 1106 + ARTS 1121 or ARTS 1125 or appropriate placement scores)

Explores the tradition of paint as a medium for artistic expression. Focuses on materials/media, tools, techniques, history and concepts of painting.

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.

ARTS 2212 - Aspects of Painting, Drawing & Multimedia

3 credit hour(s) (Pre- or corequisite: ARTS 2205 or ARTS 2206 or ARTS 2207)

Aspects of Painting and Drawing is an intermediate 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 semester only.

ARTS 2214 - Life Drawing II

3 credit hour(s) (Prerequisite: RDG 0950 + ARTS 1106 or appropriate placement scores) (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)

- 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)

- Typically offered every other year.

ARTS 2217 - Painting II

3 credit hour(s)

(Prerequisite: RDG 0950 + ARTS 2207 or appropriate placement scores)

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)

- Typically offered Spring semester 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.

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.

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.

Fire Science

Fire Science (AAS), Emergency Medical Services Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

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, Occupational Safety, Tactics and Strategy and Hazardous Materials.

The program will 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.

Career Opportunities

The Associate's of Applied Science Degree in Fire Science will prepare the student for a variety of careers in firefighting (structural and wildland), fire inspections, hazardous materials, fire suppression and detection systems, and fire extinguisher maintenance. Upon completion of the Wildland Firefighting course students will be certified as Wildland Firefighters. This certification could lead to a seasonal Forestry Aid GS 3 position.

Over the last twenty years, the complexity and intensity of wildfires has drastically increased. Wildfire agencies need ample resources (with the proper training and qualifications). Currently, wildfire agencies are suffering massive turnover in the form of retirements, transfer and resignations. The program has an agreement sponsored by the NFA, with seven accredited colleges and universities throughout the country that offer a bachelor's degree with concentrations in fire administration and fire prevention technology. All instruction from these colleges or universities is delivered completely online and students pay in-state tuition.

Different fire departments use various combinations for the selection process besides a degree. Some fire

departments are now requiring a International Fire Service Accreditation Congress (IFSAC) Firefighter I Certificate that indicates the level of Technical and Manipulative training received.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

or

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

FS 1010 - Introduction to Fire Science

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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.

Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommend)*

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

FS 1504 - Wildland Firefighting

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Introduces wild land fire control practices and techniques, including suppression and prescribed burns based on fuels, terrain, weather and urban-wild land interface, as well as the use of hand and power tools. Successful completion confers S-130 and S-190, I-100, S-132 and Wild Land Structures Defense certification.

FS 1512 - Building Construction

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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 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 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

Term 4

FS 1820 - Hazardous Materials Awarness and Operations

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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 2422 - Fire Behavior and Combustion

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement score)

Explores the theories and fundamentals of how and why fires start, spread and how they are controlled.

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

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 5

EMS 1412 - Advanced EMT (EMT-I) Theory

6 credit hour(s)

(Prerequisite: EMS 1053 + EMS 1093 + EMS 1190* + RDG 0950 or appropriate placement scores + department approval) (Pre- or corequisite: 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 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

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)

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

Associate of Applied Science in Fire Science, Emergency Medical Services Concentration 65-66 credit hour(s)

* Recommend if planning on transferring to a 4-year degree

Program Approved Electives

- **Any CJ Course**
- **Any FS Course**
- Biological/ Physical Science

CSE 1120 - Career Exploration

1 credit hour(s) (Pre- or corequisite: RDG 0950 or appropriate placement scores)

This course is designed to assist students through their career exploration and decision- making processes. Four major self-assessment areas will be explored -- personal styles/characteristics, interests, values and skills for self-understanding. The course helps students chart their academic and career course through the creation of an action plan. Students will learn how to choose a career, or occupational possibility related to a major. Students will also explore how internships, cooperative work experiences and service learning can help with career decision-making.

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
- **Foreign Language**
- Humanities
- Social/Behavioral Science

Fire Science (AAS), Structural Firefighting Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

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, Occupational Safety, Tactics and Strategy and Hazardous Materials.

The program will 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.

Career Opportunities

The Associate's of Applied Science Degree in Fire Science will prepare the student for a variety of careers in firefighting (structural and wildland), fire inspections, hazardous materials, fire suppression and detection systems, and fire extinguisher maintenance. Upon completion of the Wildland Firefighting course students will be certified as Wildland Firefighters. This certification could lead to a seasonal Forestry Aid GS 3 position.

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Different fire departments use various combinations for the selection process besides a degree. Some fire departments are now requiring a International Fire Service Accreditation Congress (IFSAC) Firefighter I Certificate that indicates the level of Technical and Manipulative training received. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

or

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

FS 1010 - Introduction to Fire Science

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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.

Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommend)*

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

FS 1504 - Wildland Firefighting

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Introduces wild land fire control practices and techniques, including suppression and prescribed burns based on fuels, terrain, weather and urban-wild land interface, as well as the use of hand and power tools. Successful completion confers S-130 and S-190, I-100, S-132 and Wild Land Structures Defense certification.

FS 1512 - Building Construction

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Concentration Courses 6 credit hour(s)**

FS 1820 - Hazardous Materials Awarness and Operations

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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.

- **Program Approved Elective 3 credit hour(s)**

Term 4

- **Concentration Courses 6-7 credit hour(s)**

FS 2422 - Fire Behavior and Combustion

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement score)

Explores the theories and fundamentals of how and why fires start, spread and how they are controlled.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 5

- **Concentration Courses 7 credit hour(s)**

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)

- **Program Approved Elective 3 credit hour(s)**

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

Associate of Applied Science in Fire Science, Structural Firefighting Concentration 64-66 credit hour(s)

* Recommend if planning on transferring to a 4-year degree

Program Approved Electives

- **Any CJ Course**
- **Any EMS Course**
- **Any FS Course**
- Biological/ Physical Science

CSE 1120 - Career Exploration

1 credit hour(s) (Pre- or corequisite: RDG 0950 or appropriate placement scores)

This course is designed to assist students through their career exploration and decision- making processes. Four major self-assessment areas will be explored -- personal styles/characteristics, interests, values and skills for self-understanding. The course helps students chart their academic and career course through the creation of an action plan. Students will learn how to choose a career, or occupational possibility related to a major. Students will also explore how internships, cooperative work experiences and service learning can help with career decision-making.

- Foreign Language
- Humanities
- Social/Behavioral Science

Concentration Courses

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

or

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

FS 2001 - Fire Protection Systems

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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 2402 - Managing Community Fire Protection

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Includes structural fire fighting operations, urban search and rescue, aircraft emergencies and firefighter safety.

FS 2418 - Command Strategy and Tactics III

1 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Covers specific incident management techniques including basic fire ground operations involving high occupancy use and mass casualty incidents.

FS 2814 - Facilities Inspection

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Emphasizes inspections conforming to NFPA 101: Life Safety Code and applicable NFPA fire codes. Covers general and occupancy-specific requirements.

Fire Science (AAS), Wildland Firefighting Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

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, Occupational Safety, Tactics and Strategy and Hazardous Materials.

The program will 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.

Career Opportunities

The Associate's of Applied Science Degree in Fire Science will prepare the student for a variety of careers in firefighting (structural and wildland), fire inspections, hazardous materials, fire suppression and detection systems, and fire extinguisher maintenance. Upon completion of the Wildland Firefighting course students will be certified as Wildland Firefighters. This certification could lead to a seasonal Forestry Aid GS 3 position.

Over the last twenty years, the complexity and intensity of wildfires has drastically increased. Wildfire agencies need ample resources (with the proper training and qualifications). Currently, wildfire agencies are suffering massive turnover in the form of retirements, transfer and resignations. The program has an agreement sponsored by the NFA, with seven accredited colleges and universities throughout the country that offer a bachelor's degree with concentrations in fire administration and fire prevention technology. All instruction from these colleges or universities is delivered completely online and students pay in-state tuition.

Different fire departments use various combinations for the selection process besides a degree. Some fire departments are now requiring a International Fire Service Accreditation Congress (IFSAC) Firefighter I Certificate that indicates the level of Technical and Manipulative training received. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

or

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

FS 1010 - Introduction to Fire Science

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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.

Term 2

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommend)*

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

FS 1504 - Wildland Firefighting

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Introduces wild land fire control practices and techniques, including suppression and prescribed burns based on fuels, terrain, weather and urban-wild land interface, as well as the use of hand and power tools. Successful completion confers S-130 and S-190, I-100, S-132 and Wild Land Structures Defense certification.

FS 1512 - Building Construction

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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.

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Concentration Courses 6 credit hour(s)**

FS 1820 - Hazardous Materials Awarness and Operations

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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.

- **Program Approved Elective 3 credit hour(s)**

Term 4

- **Concentration Courses 6-7 credit hour(s)**

FS 2422 - Fire Behavior and Combustion

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement score)

Explores the theories and fundamentals of how and why fires start, spread and how they are controlled.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 5

- **Concentration Courses 7 credit hour(s)**

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)

- **Program Approved Elective 3 credit hour(s)**

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

Associate of Applied Science in Fire Science, Wildland Firefighting Concentration 67-68 credit hour(s)

* Recommend if planning on transferring to a 4-year degree.

Program Approved Electives

- **Any CJ Course**
- **Any EMS Course**
- **Any FS Course**
- Biological/ Physical Science

CSE 1120 - Career Exploration

1 credit hour(s) (Pre- or corequisite: RDG 0950 or appropriate placement scores)

This course is designed to assist students through their career exploration and decision- making processes. Four major self-assessment areas will be explored -- personal styles/characteristics, interests, values and skills for self-understanding. The course helps students chart their academic and career course through the creation of an action plan. Students will learn how to choose a career, or occupational possibility related to a major. Students will also explore how internships, cooperative work experiences and service learning can help with career decision-making.

- Foreign Language
- Humanities
- Social/Behavioral Science

Concentration Courses

BIO 1010 - Biology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

and

BIO 1092 - Biology for Non-Majors Lab

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

or

BIO 1110 - Environmental Science

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

and

BIO 1192 - Environmental Science Laboratory

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

FS 2815 - Wildland Patterns and Prevention

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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 evaluate burn patterns as they relate to wildland fuels. Students will gain knowledge in fuel categories and their consumption level relating to species found in the Southwest. Furthermore, students will also explore fire mitigation tools as a resource to reduce and eliminate overcrowding, non-native species, and invasive species.

FS 2820 - Wildland Leadership

4 credit hour(s)

(Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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 Squad Boss Preparation

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 or appropriate placement score) (Pre- or corequisite: FS 1504)

This course is a Distance Learing course. It will provide students with skills necessary to function as an Advanced Firefighter (FFT1). Students will gain detailed information pertaining to air operations, use of portable pumps, hose lays and the duties of a squad boss. A total of three nationally recognized certificates will be issued to students meeting the requirements of the course.

FS 2830 - Wildland Urban Interface Operations

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 or appropriate placement score) (Pre- or corequisite: FS 1504)

This course will be taught as aHybrid (Blackboard) course which will require students to complete weekly tasks on the Internet. This course will provide students with the tools necessary to evaluate, protect and assess unique hazards in the interface.

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

Firefighter I

School of Health, Wellness & Public Safety (HWPS)

Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Courses

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

FS 1504 - Wildland Firefighting

3 credit hour(s) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Introduces wild land fire control practices and techniques, including suppression and prescribed burns based on fuels, terrain, weather and urban-wild land interface, as well as the use of hand and power tools. Successful completion confers S-130 and S-190, I-100, S-132 and Wild Land Structures Defense certification.

FS 1817 - Wildland Emphasis

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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 (consisting of 5 modules) and I-300 (consisting of 5 modules) I-200 will provide students with knowledge in incident management, organization, development incident facilities, resources and common responsibilities. I-300 will provide students with intermediate training in staffing, organization, resource management air operations and planning. This course will also include “all risk” training.

FS 1820 - Hazardous Materials Awarness and Operations

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 + MATH 0930 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 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

Fitness Technician

Fitness Technician, Certificate of Completion

School of Health, Wellness & Public Safety (HWPS)

Description

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.

Information Sessions are scheduled during the term prior to enrollment in the Fitness Technician (FITT) Certificate Program. These sessions provide general information about the profession of personal fitness.

This program can be completed in three consecutive terms if attending full-time.

Special Requirements

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.

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

The US Department of Labor expects the employment of fitness workers to increase 29 percent over the 2008-2018 decade, which is much faster than the average for all occupations.*
*Source: United States Department of Labor, Bureau of Statistics, Occupational Outlook Handbook, 2010-2011 edition.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency (ENG 1101 Recommended)*
- Math 2 Proficiency
- Reading 2 Proficiency

Required Program Courses

BIO 1310 - Human Anatomy and Physiology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory

1 credit hour(s) (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

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 advisor for more information.

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

or

BA 1105 - Introduction to Entrepreneurship

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

Introduces students to the concept of entrepreneurism 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.

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2232 - Business and Professional Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Emphasizes developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

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

- **Program Approved Elective 1 credit hour(s)** (Fitness Elective 1000-level course or higher)

Term 2

FITT 1572 - Fitness Assessment and Exercise Prescription

3 credit hour(s) (Prerequisite: FITT 1010 + FITT 1072 + MATH 0930 or appropriate placement scores)

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 2492 - Group Exercise Leadership Preparation

1 credit hour(s) (Prerequisite: department approval)

Offers practical skills and experience in guiding groups to safely participate in exercise classes. Prepare students for national certification exams in various fields of group exercise.
Note(s)

- typically offered Spring only
- 45 lab hours

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

NUTR 1020 - Sports Nutrition

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

This course will explore the role of nutrition in physical performance of competitive and recreational sports participants. This course can be used in place of FITT 1570 - Applied Nutrition for Sport and Exercise for the Fitness Technician program.

Term 3

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

or

FITT 1095 - 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

Certificate of Completion in Fitness Technician 31-37 credit hour(s)

Program Approved Electives

CSE 1101 - College Success

3 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 and applied research. Students learn to create success by applying proven principles for active learning, self-motivation, self- management, self-awareness and interdependence.
Note(s)

- 45 theory hours
- 15 lab 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 1097 - Independent Study

1-6 credit hour(s) Focuses on a specific problem while working with an instructor.

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 1292 - Boxing Conditioning

1 credit hour(s) Presents highly intense, non-contact boxing activities covering basic boxing skills (stance and footwork, punches, combinations, ect.) as well as participation in general conditioning activities commonly performed by boxers.
Note(s)

- 45 lab hours

FITT 1293 - Fall Prevention Training for Older Adults

1 credit hour(s) Presents a highly structured activity based course to directly address the three sensory systems used for balance through a progressive, multi-faceted approach. In addition to individual assessments, students will develop strength, improve balance and learn strategies to help maintain independence with a renewed confidence for successful aging. Physician release indicating student's ability to safely participate in moderate intensity physical activity is required.
Note(s)

- 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 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 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 1692 - Beginning Country Western Dance

1 credit hour(s) Introduces dance basics including the Two-Step, Four-Count Swing, Waltz, Cotton-Eyed Joe, Line-Dance and Polka while learning how to lead and follow and dance with different partners.
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 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 2192 - Fitness for Older Adults II

1 credit hour(s) (Prerequisite: FITT 1892)

Continuation of FITT 1892 and is designed specifically for individuals 50 years of age and older. Physician release indicating student's ability to safely participate in moderate intensity physical activity is required.
Note(s)

- 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 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

Food Service Management

Food Service Management, Certificate of Completion

School of Business & Information Technology (BIT)

Description

The Food Service Management (FSMG) 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.

Special Requirements

Students are required to purchase new textbooks for program courses with third party exams. Uniforms, tools and equipment may be required for food production labs. Students should be able to lift 30 pounds and must present a physician's certificate to CNM at the start of classes stating that the student is free from tuberculosis in a transmissible form. Students must be able to stand for the duration of lab classes.

Career and Educational Opportunities

Jobs are available in restaurants, hotels, resorts, casinos, assisted-living properties and other areas. Types of positions range from entry level to supervisory/managerial positions, including service managers and kitchen managers.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course

work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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.

or

HT 1101 - Introduction to Tourism

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Recommended pre- or corequisite: IT 1010)

Provides a broad overview of travel and tourism development, operations, and career opportunities.

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

or

CULN 1010 - Food Production and Service Fundamentals

3 credit hour(s) (Pre or corequisite: HT 1101 or CULN 1103)

Provides entry level cooking, baking and service techniques required for basic food operations. Basic culinary math, cooking techniques and knife skills are introduced. Safety, sanitation and customer service are applied in a laboratory setting providing service to the public in a student-run restaurant.
Note(s)

- 30 theory hours

- 45 lab hours

CULN 1103 - Safety and Sanitation Principles

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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 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.

NUTR 1010 - Personal and Practical Nutrition

3 credit hour(s) (Pre-or corequisite: ENG 0950 or appropriate placement scores)

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.

- **Program Approved Electives 3-6 credit hour(s)**

Certificate of Completion, Food Service Management 24-28 credit hour(s)

Program Approved Electives

- **Any ACCT Courses 3-6 credit hour(s)**
- **Any BA Courses 3-6 credit hour(s)**
- **Any CIS courses 3 credit hour(s)**
- **Any CULN Courses 3-5 credit hour(s)** (except those required for the degree)
- **Any FITT courses 1-3 credit hour(s)**
- **Any HT Courses 3-4 credit hour(s)**
- **Any NUTR Courses 3 credit hour(s)**
- CSE 1101 - College Success **1-3 credit hour(s)** or higher
- FREN 1101 - Beginning French I **3-4 credit hour(s)** or higher
- SPAN 1101 - Beginning Spanish **3-4 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)***

* Course transfers to New Mexico State University School of Hotel, Restaurant and Tourism Management.

Geographic Information Technology

Geographic Information Technology (Certificate of Completion), Geographical Information Systems Concentration

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many

colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

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 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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

Term 2

CM 2205 - Construction Surveying

3 credit hour(s) (Prerequisite: MATH 1310 or GIS 1001 or department approval)

Introduces the basic techniques and equipment used in surveying including tape, level and theodolite; leveling, distance and angle measurement; traversing; and note-keeping.
Note(s)

- 15 theory hours
- 90 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 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

or

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

SUR 1002 - Math for Surveyors

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.

Term 3

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

GIS 1005 - CAD for 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 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 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

Certificate of Completion in Geographic Information Technology, Geographical Information Systems Concentration, 32 credit hour(s)

Geographic Information Technology (Certificate of Completion), Surveying Concentration

School of Applied Technologies (AT)

Description

The surveying concentration is appropriate for students who wish to adapt their geospatial skills to surveying applications. Students who complete this certificate concentration are eligible and encouraged to take the National Society of Professional Surveyors (NSPS) Level I Technician exam.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 3 Proficiency
- Reading 2 Proficiency

Term 1

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 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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

SUR 1002 - Math for Surveyors

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.

Term 2

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

CM 2205 - Construction Surveying

3 credit hour(s) (Prerequisite: MATH 1310 or GIS 1001 or department approval)

Introduces the basic techniques and equipment used in surveying including tape, level and theodolite; leveling, distance and angle measurement; traversing; and note-keeping.
Note(s)

- 15 theory hours
- 90 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 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

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

SUR 1001 - Introduction to Surveying Engineering

1 credit hour(s) Introduces the field of surveying and explores potential career paths.
Note(s)

- 15 lab hours

Term 3

GIS 1005 - CAD for 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

MATH 1410 - Trigonometry

3 credit hour(s) (Prerequisite: MATH 1315 or MATH 1415 or appropriate placement scores)

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.

SUR 1015 - Public Lands Survey System Boundaries

3 credit hour(s) (Prerequisites: 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 1017 - Traffic Control and NSPS Survey Technician Certification Prep

2 credit hour(s) (Pre- or corequisite: SUR 1015)

Traffic control and safety procedures for surveying and field operations. As well as a review of the common body of knowledge" that is covered in the Level 1 NSPS Survey Technician certification."

Certificate of Completion in Geographic Information Technology, Surveying Concentration 37 credit hour(s)

Geographic Information Technology, Associate of Applied Science

School of Applied Technologies (AT)

Description

The 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.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

MATH 1210 - Methods of Problem Solving

4 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores)

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).

Or

MATH 1310 - Intermediate Algebra

4 credit hour(s) (Prerequisite: MATH 0940 or appropriate placement scores)

Investigates exponents and polynomial, rational and radical expressions and equations. Introduces graphing and functions. Graphing calculator may be required for this course. Please see class syllabus for requirements.

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 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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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 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

Term 3

GIS 1005 - CAD for 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 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 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

- **Human Relations Requirement 3 credit hour(s)**

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

Term 4

CIS 1513 - Database Design and Introduction to SQL

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 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

GEOG 1101 - Physical Geography

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores)

Introduces the physical elements of world geography through study of climate and weather, vegetation, soils, plate tectonics and the various landforms as well as the environmental cycles and distributions of these components with emphasis on their significance to humans.

or

GEOG 1102 - Human Geography

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate scores)

Introduces the human elements of world geography, providing a systematic analysis of world population, religion, language, ethnicity, economic development, political units and resource issues.

CM 2205 - Construction Surveying

3 credit hour(s) (Prerequisite: MATH 1310 or GIS 1001 or department approval)

Introduces the basic techniques and equipment used in surveying including tape, level and theodolite; leveling, distance and angle measurement; traversing; and note-keeping.
Note(s)

- 15 theory hours
- 90 lab hours

SUR 1002 - Math for Surveyors

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.

Term 5

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)

- 30 lab hours

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

CIS 2520 - Introduction to SQL (Structured Query Language)

3 credit hour(s) (Prerequisites: CIS 1513 or department approval)

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.

- 30 theory hours
- 45 lab hours

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.

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)

- 15 theory hours
- 90 lab hours

Associate of Applied Science in Geographic Information Technology 60 credit hour(s)

Health Information Technology

Health Information Technology, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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).

Special Requirements

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

The health information field has opportunities in hospital medical records/health information departments, clinics, physician offices, long-term care facilities, ambulatory care facilities, managed care organizations, insurance agencies, state health departments, the federal government, entrepreneurship and private industry. Additional career information is available from the American Health Information Management Association.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

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

- BIO 1410

  and

- CHEM 1410

  or

- CHEM 1710

Term 1

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

Term 2

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

HIT 1015 - Introduction to Coding

3 credit hour(s) (Pre- or corequisite: BIO 2210 + BIO 2310 + HIT 1020 + 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 1030 - Health Data Content and Structure

4 credit hour(s) (Pre- or corequisite: ENG 0950 + MATH 0930 + RDG 0950 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, accrediation and licensure standards applicable to health records.

HIT 1055 - PathoPharm

4 credit hour(s) (Pre- or corequisite: BIO 2210 + BIO 2310 + 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. 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.

Term 3

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

HIT 1060 - Health Information Management Systems

3 credit hour(s) (Prerequisites: IT 1010 + OTEC 1175 + 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 theory 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 + department approval)

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 2010 - Classification of Diseases I (ICD-CM)

3 credit hour(s) (Prerequisites: HIT 1015 + HIT 1020 + HIT 1030 + HIT 1055)

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

Term 4

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

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

HIT 2020 - Classification of Diseases II

3 credit hour(s) (Prerequisites: HIT 1015 + 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) (Prerequisites: 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

Term 5

HIT 2040 - Health Information Data Analysis

3 credit hour(s) (Prerequisites: 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) (Prerequisites: 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) (Prerequisites: IT 1010 + HIT 1030 + HIT 1015 + HIT 2010)

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 2290 - Health Information Practicum II

2 credit hour(s) (Pre- or corequisites: HIT 2030 + HIT 2050 + HIT 2060 + department approval)

Provides a simulated or clinical learning experience in a health care facility. Emphasis is on coding, qualitative analysis, quality assurance, utilization management and supervisory activites 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
- **Human Relations Requirement 3 credit hour(s)**

Associate of Applied Science in Health Information Technology 66-67 credit hour(s)

* Recommended if planning on transferring to a 4-year degree.

Heating, Ventilating, Air Conditioning and Refrigeration (HVAC)

Commercial, Industrial HVAC & Building Performance, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

Educational Opportunities

The associate's degree prepares students for further studies that will ultimately qualify them for faster career

advancement and greater earning potential.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Graduates are employed by local service and installation contractors as well as local manufacturers, hospitals and facilities. As a result of completing the two (2) certificates, students have acquired the training for successful acceptance in the HVAC/R industry. With additional on the job training, students can apply for the New Mexico Journeyman's exams.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 1 Proficiency
- Reading 2 Proficiency

Term 1

HVAC 1105 - Refrigerant Fundamentals

4 credit hour(s) (Prerequisites: ENG 0950 + MATH 0750 + RDG 0950 or appropriate placement score or department approval)

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 corequisites: 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.

Term 2

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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 systemsincluding furnace and package systems and alternative heating sources. Emphasizes electrical and electronic trougle shooting, sevice, maintenance, repair and replacement of residential and light commercial heating systems.
Note(s)

- 15 theory hours
- 90 lab hours

Term 3

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

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 advaned 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

Term 4

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 or appropriate placement score) (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.

Certificate of Completion in Commercial, Industrial HVAC & Building Performance 54 credit hour(s)

Heating, Ventilating, Air Conditioning and Refrigeration Technology, Associate of Applied Science

School of Applied Technologies (AT)

Description

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.

Special Requirements

Students are required to purchase textbooks, and pay certification exam fees.

Graduates will be required to earn their EPA Universal 608 Refrigeration Handling Certification.

EPA Exam fee is approximately $50.

Students must complete the National Industry Competency Exams (ICE).

Residential AC and Heating exam for the RESIDENTIAL HVAC Certificate.

Commercial Refrigeration and the Light Commercial AC and Heating exams for the COMMERCIAL, INDUSTRIAL HVAC & GREEN BUILDING PERFORMANCE Certificate.

ICE Exam fees are approximately $50 each.

Fees: Course fees are published in the Schedule of Classes. HVAC Tools and personal protective equipment (to be used in labs) will be purchased for the student with this fee.

Career and Educational Opportunities

Graduates are employed by local service and installation contractors as well as local manufacturers, hospitals and facilities. As a result of completing the two (2) certificates, students have acquired the training for successful acceptance in the HVAC/R industry. With additional on the job training, students can apply for the New Mexico Journeyman's exams. The associate's degree prepares students for further studies that will ultimately qualify them for faster career advancement and greater earning potential.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

HVAC 1105 - Refrigerant Fundamentals

4 credit hour(s) (Prerequisites: ENG 0950 + MATH 0750 + RDG 0950 or appropriate placement score or department approval)

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 corequisites: 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.

Term 2

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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 systemsincluding furnace and package systems and alternative heating sources. Emphasizes electrical and electronic trougle shooting, sevice, maintenance, repair and replacement of residential and light commercial heating systems.
Note(s)

- 15 theory hours
- 90 lab hours

Term 3

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

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 advaned 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

Term 4

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 or appropriate placement score) (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.

Term 5

- **Humanities Requirement 3 credit hour(s)**

or

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

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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

Associate of Applied Science in Heating, Ventilating, Air Conditioning and Refrigeration Technology 66-67 credit hour(s)

Residential HVAC, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career Opportunities

Graduates are employed by local service and installation contractors as well as local manufacturers, hospitals and facilities. As a result of completing the two (2) certificates, students have acquired the training for successful acceptance in the HVAC/R industry. With additional on the job training, students can apply for the New Mexico Journeyman's exams. The associate's degree prepares students for further studies that will ultimately qualify them for faster career advancement and greater earning potential. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 1 Proficiency
- Reading 2 Proficiency

Term 1

HVAC 1105 - Refrigerant Fundamentals

4 credit hour(s) (Prerequisites: ENG 0950 + MATH 0750 + RDG 0950 or appropriate placement score or department approval)

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 corequisites: 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.

Term 2

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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 systemsincluding furnace and package systems and alternative heating sources. Emphasizes electrical and electronic trougle shooting, sevice, maintenance, repair and replacement of residential and light commercial heating systems.
Note(s)

- 15 theory hours
- 90 lab hours

Certificate of Completion in Residential HVAC 27 credit hour(s)

History

History, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Students of History at CNM will read the work of published historians and documents from the past, learning to evaluate their ideas and interpret their historical meaning. They will develop the abilities to assess historical evidence and conflicting interpretations, and to analyze both the changes and the continuity of the past.

You will also develop a better understanding of why history is important. Learning about the past provides us with the background to compare our times and our concerns with those of people who lived before us, to understand historical change and how the world we live in came to be.

Our faculty have expertise in cultural, economic, intellectual, political , religious and social history and interests ranging from ancient history, through the medieval and early modern era, to the present.

Educational Option Information

This educational option is a

- Associate of Arts.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Meeting the requirements for an Associate of Arts in History from CNM and prepare a student to obtain a Bachelor of Arts in History from a 4-year college or university.

This educational option can be started

- Any term.

Primary course location

- Any CNM Campus.

Cost and Financial Aid

Financial Aid considerations

- This program is eligible for Financial Aid.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

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 planning to transfer to UNM should keep in mind that the UNM History Program offers four, regional concentrations of study: United States, Latin America, Europe, or Asia. Regardless of concentration, History majors at UNM must all complete the Western Civilization courses, which at CNM are numbered HIST 1101 and HIST 1102.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

- **Fine Arts Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Modern Language Elective 4 credit hour(s)**

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

- **Laboratory Science Requirement 4 credit hour(s)**

Term 3

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1181 - Early Latin American History

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Introduces Latin American history from the pre-Colombian period to the Revolutionary period beginning in 1810.

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Laboratory Science Requirement 4 credit hour(s)**

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

Term 4

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

or

HIST 1182 - Modern Latin American History

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Introduces Latin American history from the beginning of the revolutionary period in 1810 to the present.
Note(s)

- Previously HIST 2282

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

Associate of Arts in History 60-61 credit hour(s)

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.

** HIST 1101 and HIST 1102, HIST 1161 and HIST 1162 can be taken in any order (do not need to be taken sequentially).

** 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) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

HIST 2230 - Twentieth Century Russia

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys Russian History from czarist absolutism through communist totalitarianism to the tentative introduction of a pluralist society.

HIST 2240 - Vietnam: War Politics and Culture

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: 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.

HIST 2260 - History of New Mexico

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys New Mexico's history from 1500 to the present: contributions of the interactions among Native Americans, Hispanics, Anglos and others.

HIST 2270 - The American West

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores the people, cultures, processes, ideas and environmental factors that shaped the history of the West. Examines topics and exploration, migration and immigration, land use and misuse, western violence and experiences of various ethnics groups of the region.

Hospitality and Tourism

Hospitality and Tourism, Associate of Arts

School of Business & Information Technology (BIT)

Description

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 at (505) 224-3811, 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
Special Requirements

Career and Educational Opportunities

Jobs are available in lodging, casinos, restaurants, resorts, cruise ships, event planning, convention services, sales and marketing, bed and breakfasts, and other areas. Types of employment range from front office, marketing, guest services to management and leadership positions. Many hospitality careers have competitive benefits and wages with the opportunity for rapid advancement.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Note: NMSU: Students should contact NMSU's HRTM department at (575) 646-5995 one or two semesters prior to their expected start date in order to begin the application process.

ENMU: Students should contact ENMU's College of Business at (575)562-2342 for more information.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

- MATH 1210

or

- MATH 1310

Term 1

HT 1101 - Introduction to Tourism

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Recommended pre- or corequisite: IT 1010)

Provides a broad overview of travel and tourism development, operations, and career opportunities.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

or

MATH 1320 - A Survey of Mathematics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Focuses on the creative nature of mathematics through problems, readings, discussions of topics such as set theory, logic, number theory, basic geometry and probability.

or

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

or

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

- **Humanities/Fine Arts Approved Elective 3 credit hour(s)**

Term 2

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

or

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

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.

CULN 1103 - Safety and Sanitation Principles

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores)

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.

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ECON 1101 - Introduction to Economics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces the theories, history and relationships of economics.

Term 3

CULN 1010 - Food Production and Service Fundamentals

3 credit hour(s) (Pre or corequisite: HT 1101 or CULN 1103)

Provides entry level cooking, baking and service techniques required for basic food operations. Basic culinary math, cooking techniques and knife skills are introduced. Safety, sanitation and customer service are applied in a laboratory setting providing service to the public in a student-run restaurant.
Note(s)

- 30 theory hours
- 45 lab hours

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

or

FREN 1101 - Beginning French I

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces development of French language skills emphasizing listening, comprehension and speaking.

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

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

- **Biological/Physical Science Approved Elective with lab 4 credit hour(s)**

Term 4

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

- **Biological/Physical Science Approved Elective with lab 4 credit hour(s)**

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.

- **Humanities/Fine Arts Approved Elective 3 credit hour(s)**

- **Humanities/Fine Arts Approved Elective 3 credit hour(s)**

or

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

Associate of Arts in Hospitality and Tourism 63-65 credit hour(s)

Program Approved Electives

6-9 credit hour(s) required in each Social/Behavioral Science and Humanities/Fine Arts for a total of 15 credit hour(s).

Biological/Physical Science

ASTR 1110 - Introduction to Astronomy II

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0940 or appropriate placement scores)

Explores life cycles of stars and stellar systems and the structure of the universe. Focuses on the births, lives and deaths of stars; the nature of the Milky Way galaxy and current concepts on cosmology and the large-scale structure of the universe.

ASTR 1192 - Astronomy Lab

1 credit hour(s) (Pre- or corequisite: ASTR 1110)

Investigates in optional laboratory setting the principles discussed in ASTR 1110.
Note(s)

- 45 lab hours

BIO 1010 - Biology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1092 - Biology for Non-Majors Lab

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

BIO 1110 - Environmental Science

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

BIO 1192 - Environmental Science Laboratory

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

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 course: 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

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

PHYS 1610 - Physics II

4 credit hour(s)

(Prerequisites: RDG 0950 + PHYS 1510) (Recommended course: 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 - 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 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

PHYS 1810 - Physics for Scientists and Engineers II

4 credit hour(s)

(Prerequisite: PHYS 1710) (Recommended course: PHYS 1892)* (Pre- or corequisite: MATH 1715)

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 - Physics for Scientists and Engineers II Laboratory

1 credit hour(s) (Corequisite: PHYS 1810)

Focuses on experiments in electricity, magnetism, optics.
Note(s)

- 45 lab hours

Social/Behavioral Science

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1120 - Archaeology: Discovering Our Past

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys archaeological theory and methods including data from selected archaeological sites in various geographical areas and from different time periods.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

GEOG 1102 - Human Geography

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate scores)

Introduces the human elements of world geography, providing a systematic analysis of world population, religion, language, ethnicity, economic development, political units and resource issues.

GEOG 2201 - World Regional Geography

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Humanities/Fine Arts

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

ENG 2221 - Creative Writing: Fiction

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Introduces fiction writing as a creative process.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

PHIL 1110 - Introduction to Philosophical Thought

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

PHIL 1102 - Ethics in Society

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

RLGN 1107 - Living World Religions

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores.)

Introduces the academic study of religion, focusing on major world religions: religions on antiquity, Hinduism, Buddhism, Taoism, Judaism, Christianity, Islam and religion in primal cultures.

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

Hospitality and Tourism, Certificate of Completion

School of Business & Information Technology (BIT)

Description

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.

Career and Educational Opportunities

Jobs are available in lodging, casinos, restaurants, resorts, cruise ships, event planning, convention services, sales and marketing, bed and breakfasts, and other areas. Types of employment range from front office, marketing and guest services to entry level supervision. Many hospitality careers have competitive benefits and wages with the opportunity for rapid advancement. Students wanting to continue their education beyond the certificate should meet with the Business & Information Technology academic advisor or program chair for more information about the Hospitality and Tourism Associate of Arts degree and other transfer programs.

Students wanting to continue their education beyond the certificate should meet with the Business & Information Technology program for more information about Hospitality and Tourism Associate of Arts degree and other 2+2 transfer programs.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

or

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

HT 1101 - Introduction to Tourism

3 credit hour(s) (Prerequisite: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Recommended pre- or corequisite: IT 1010)

Provides a broad overview of travel and tourism development, operations, and career opportunities.

or

CULN 1100 - Introduction to Culinary Skills

3 credit hour(s) (Prerequisites: MATH 0930 + RDG 0950 + ENG 0950 or appropriate placement scores) (Pre- or corequisite: 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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.
- **Program Approved Electives 3-4 credit hour(s)**

Term 2

BA 1131 - Business Professionalism

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

HT 2141 - Marketing Services

3 credit hour(s) (Pre- or corequisite: CULN 1100 + 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.

or

BA 2222 - Principles of Marketing

3 credit hour(s) (Prerequisites: (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.

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 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.

- **Program Approved Electives 3 credit hour(s)**

Certificate of Completion in Hospitality and Tourism 30-31 credit hour(s)

Program Approved Electives

- **Any ACCT Courses 3-4 credit hour(s)**
- **Any BA Courses 3-6 credit hour(s)** (except those required for certificate)
- **Any CIS Courses 3 credit hour(s)**
- **Any CULN Courses 3-5 credit hour(s)**
- **Any FITT Courses 1-3 credit hour(s)**
- **Any HT Courses 3-4 credit hour(s)** (except those required for certificate)

- **BIT 1005 - Survey of Business & Information Technology 3 credit hour(s)**
- **CSE 1101 - College Success 1-3 credit hour(s)** or higher

- CULN 1096-1996 - Special Topics **1-3 credit hour(s)** (Maximum 3 credits allowed)

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 **3-4 credit hour(s)** or higher
- SPAN 1101 - Beginning Spanish **3-4 credit hour(s)** or higher

Integrated Studies

Integrated Studies, Associate of Applied Science

School of Business & Information Technology (BIT)

Description

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.

Special Requirements

The program includes classroom, studio, laboratory instruction and distance learning.

Career and Educational Opportunities

This Associate of Applied Science Degree is not intended to transfer to a four-year institution. See Academic Advisement and Career Development for information on transfer degrees. Program information is available from the Business & Information Technology Office at (505) 224-3811.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.
- **Human Relations Requirement 3 credit hour(s)**
- **Choice Requirement 3-4 credit hour(s)**

Term 2

- ***Choose one Course from Humanities, Biological/Physical Science, Fine Arts or Social/Behavioral Science, Communication, English or Journalism 3-4 credit hour(s)**
- ****Unspecified Electives 6 credit hour(s)**

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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 60-62

Latin American Studies

Latin American Studies, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

This two year degree program is designed for transfer to Latin American Studies programs at the University of New Mexico or New Mexico State University.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

  or

- MATH 1310

- Reading 2 Proficiency

Term 1

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Fine Arts Requirement 3 credit hour(s)** (ARTH 2202 or ARTH 2251 Recommended)

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **Program Approved Elective 4 credit hour(s)**

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

HIST 1181 - Early Latin American History

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Introduces Latin American history from the pre-Colombian period to the Revolutionary period beginning in 1810.

- **Laboratory Science Requirement 4 credit hour(s)**

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

- **Program Approved Elective 3-6 credit hour(s)**

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

HIST 1182 - Modern Latin American History

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Introduces Latin American history from the beginning of the revolutionary period in 1810 to the present.
Note(s)

- Previously HIST 2282

- **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) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

- **Program Approved Elective 12 credit hour(s)**

or

- **Elective 12 credit hour(s)** (ECON 2203, PSCI 2240, SPAN 2280, and SUST 1134 Recommended)*

Associate of Arts in Latin American Studies 60-67 credit hour(s)

* These courses are recommended for transfer to the Latin American Studies Program at the University of New Mexico. It is the student's responsibility to contact the four year transfer school to confirm specific admission and degree requirements.

Program Approved Electives

PORT 1101 - Beginning Portuguese I

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 scores)

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 1111 - Heritage Spanish Language

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 scores)

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 scores)

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 2277 - The Art and Skill of Translation

3 credit hour(s) (Prerequisites: 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 form 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) (Prerequisite: RDG 0950 or appropriate placement score or department approval)

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.

Liberal Arts

Liberal Arts, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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 two years 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.

Special Requirements

Students may also choose to complete an Associate of Arts in a particular discipline or field of study. Students then follow the transfer pathway in that area so they can more smoothly transfer into a major at UNM. Transfer degrees offered include Anthropology, Communication, Criminology, English, History, Political Science, Psychology, or Sociology.

Liberal Arts serves as home to the General honors program, which transfers to the University of New Mexico's General Honors program. General Honors (GNHN) and Arts & Sciences topics courses numbered between 1096-1996 or 2096-2996 may be used as electives in the Liberal Arts degree. Depending on the courses selected, the program includes classroom, studio, and laboratory instruction, with the option for distance learning for many classes. The Liberal Arts degree also includes a Sustainability Emphasis, for students wishing to transfer to the University of New Mexico's Sustainability Program. The AA in Liberal Arts is designed to accommodate diverse educational interests, with courses taught in the day, in the evening, and on weekends. The liberal arts courses also support the program requirements of other CNM academic schools.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.

- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210

or

- MATH 1310
- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.
- **Humanities Requirement 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) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Modern Language Elective 4 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 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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 hour(s)

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) (Pre- or corequisite: ENG 1101)

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.

and

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + MATH 0930)

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.

EPS 1101 - Introduction to Geology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

EPS 1192 - Introduction to Geology Laboratory

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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.

GEOG 1101 - Physical Geography

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores)

Introduces the physical elements of world geography through study of climate and weather, vegetation, soils, plate tectonics and the various landforms as well as the environmental cycles and distributions of these components with emphasis on their significance to humans.

PSCI 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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 course: 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) (Prerequisite: RDG 0950)(Recommended course: 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.

PSCI 2280 - Introduction to Political Analysis

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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.

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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

Machine Tool Technology

Machine Tool Technology, Associate of Applied Science

School of Applied Technologies (AT)

Description

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. Upon completion of this program, graduates will be eligible for entry level employment in a variety of industrial careers.

Career Opportunities

Students will study hands-on Machining 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.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

MATT 1001 - Metals Math I

2 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 1110 - Basic Lathe Principles

2 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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)

(Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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)

(Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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

Term 2

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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 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) (Prerequisites: 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

Term 3

MATT 1065 - Metallurgy

2 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores or department approval)

Introduces the basic science of metals including structure, properties, alloying, weldability and testing of ferrous and non-ferrous metals with emphasis on machining performance and applications.

MATT 2005 - Machine Tool Technology CAD/CAM

2 credit hour(s) (Prerequisite: MATT 1240)

Presents computer-assisted drafting as applied in machine tool technology on hardware typically found in the machine shop with specific instruction offered in CADKEY software.

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 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

Term 4

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATT 2140 - Advanced Computer Numerical Control

2 credit hour(s) (Prerequisite: MATT 2040 or department approval)

Building on knowledge and skills developed in MATT 2392, presents advanced programming, manuscript

and tape preparation and editing. Includes advanced exercises in various programming languages, subroutines and interactive graphics.
Note(s)

- 90 lab hours

WELD 1062 - Welding Fundamentals

3 credit hour(s) (Recommended prerequisite: AUTC 1240 + DETC 1240 + MATT 1240 + PLMB 1235)

Designed for non-Welding majors, 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.
Note(s)

- 135 lab hours

or

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.

or

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*.

Term 5

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities/Fine Arts Requirement 3 credit hour(s)**

or

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

MATT 1060 - Machine Tool Technology Skills

3 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 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.

Associate of Applied Science in Machine Tool Technology 60-61 credit hour(s)

Machine Tool Technology, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career Opportunities

Gainful Employment information is available from Job Connection Services. One hundred percent of the 2007-08 graduating class obtained employment in the metals technology field. Jobs are available in machine shops involved in research and development for the aerospace industry and scientific community. The associate of applied science degree prepares graduates for career advancement and earning potential. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

MATT 1001 - Metals Math I

2 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 1110 - Basic Lathe Principles

2 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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)

(Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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)

(Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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

Term 2

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 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) (Prerequisites: 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

Term 3

MATT 1065 - Metallurgy

2 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores or department approval)

Introduces the basic science of metals including structure, properties, alloying, weldability and testing of ferrous and non-ferrous metals with emphasis on machining performance and applications.

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 2005 - Machine Tool Technology CAD/CAM

2 credit hour(s) (Prerequisite: MATT 1240)

Presents computer-assisted drafting as applied in machine tool technology on hardware typically found in the machine shop with specific instruction offered in CADKEY software.

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 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

Certificate of Completion in Machine Tool Technology 36 credit hour(s)

Mathematics

Mathematics, Associate of Science

School of Math, Science & Engineering (MSE)

Description

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.

The two-year 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 at (505) 277-0697. 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 the CNM Academic Advising Center.

Educational Option Information

This educational option is a

- Two-year program

This educational option can be completed

- Part -Time or Full -Time

This educational option can be started

- Any term

Primary course location

- Main campus and Montoya campus

Special Requirements

Students are expected to purchase textbooks, lab manuals and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial Aid eligible

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

An associate degree is an important milestone for students pursuing either a baccalaureate degree or graduate degree in Mathematics. Core requirements for the baccalaureate are met through completion of the CNM Associate of Science degree.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1410

  and

- MATH 1415
- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **Laboratory Science Requirement 4-5 credit hour(s)**

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

Term 2

CSCI 1153 - Programming in Matlab

4 credit hour(s) (Prerequisite: MATH 1415 or higher)

An introduction to computing. The objective of the course is to help students understand of the relationship between computing and problem solving. A general understanding of matrices and basic computer knowledge are beneficial for success in this course.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Laboratory Science Requirement 4-5 credit hour(s)**

MATH 1715 - Calculus II

4 credit hour(s) (Prerequisite: MATH 1710)

Continues 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.

Term 3

- **Approved Program Elective 3-4 credit hour(s)**

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite:

ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

- **Humanities Requirement 3 credit hour(s)**

MATH 2710 - Calculus III

4 credit hour(s) (Prerequisite: MATH 1715)

Continues course of study begun in MATH 1715 - Calculus II, including multivariate and vector calculus: level curves and surfaces, partial derivatives, gradients, tangent planes, directional derivatives, multiple integrals, cylindrical and spherical coordinates, applications. A Graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

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

Term 4

- **Approved Program Elective 6 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 hour(s)

Approved Program Electives

CSCI 2201 - Mathematical Foundations of Computer Science

4 credit hour(s) (Prerequisites: CSCI 1151 or CSCI 1152 or CSCI 1153 + MATH 1710)

Introduces formal mathematical concepts of computer science for the beginning student. Topics include elementary logic, induction, algorithmic processes, graph theory and models of computation. Some programming required.

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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 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 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. 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 course: MATH 2710)

Includes the elementary theory of ordinary differential equations, numerical methods, phase plane analysis, introduction to transform methods.
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!

***** 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!**

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Medical Laboratory Sciences

Medical Laboratory Technician, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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; (847) 939-3597; naacls.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.

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 advisor for more information.

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 Opportunities

Gainful Employment information is available from Job Connection Services. There are many job placement prospects locally, regionally and nationally for Medical Laboratory Science graduates. Tuition assistance for those who want to pursue more education in Medical Laboratory Science is available through many employers. An agreement with the University of New Mexico allows for the transfer of CNM credits to the Medical Laboratory Science Bachelor of Science Degree program. Graduate and higher degrees in Medical Laboratory Science are available. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **High School Diploma or Equivalent**
- Coordinated Entry Program
- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency
- HLTH 1001

Term 1

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

or

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

and

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 course: 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.

and

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MLT 1001 - Preparation for Medical Lab Sciences

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

An introduction to the Medical Laboratory industry and the skills necessary to succeed in laboratory education and careers. Includes necessary compliance requirements, 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.

Term 2

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

Term 3

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

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.

- **Human Relations Requirement 3 credit hour(s)**

MLT 1270 - Phlebotomy Skills for MLT

2 credit hour(s) (Prerequisite: [ENG 0950 + MATH 0930 + RDG 0950 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

or

PHLB 1010 - Phlebotomy Theory

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 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.

and

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

Term 4 (Coordinated Entry - Typically Offered Fall Only)

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 advisor for more information.

MLT 1012 - Clinical Urinalysis

1 credit hour(s) (Prerequisites: BIO 1410 + BIO 1492 + CHEM 1410 + CHEM 1492 or BIO 2110 + BIO 2192 + BIO 2210 + BIO 2310 + CHEM 1710 + CHEM 1792 + CHEM 1810 + CHEM 1892 + CHEM 2210 + ENG 1101 + Human Relations Requirement + IT 1010 + MATH 1330 + MLT 1270 or MLT 1001 + PHLB 1010 + PHLB 1092 + department approval) (Pre- or corequisite: PHLB 1090) (Corequisite: MLT 1092 + MLT 1390 or MLT 1510 + MLT 1592 + MLT 1692 + MLT 2011 + MLT 2092)

Introduces principles and procedures of physical, chemical and microscopic analysis of urine.
Note(s)

- Typically offered Fall term only.

MLT 1092 - Clinical Urinalysis Laboratory

1 credit hour(s) (Pre- or corequisite: PHLB 1090) (Corequisite: MLT 1012 + MLT 1390 or 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 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.

or

PHLB 1090 - Clinical Phlebotomy

3 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)

- 135 clinical hours

MLT 1510 - Clinical Hematology

3 credit hour(s)

(Pre- or corequisite: PHLB 1090) (Corequisite: MLT 1012 + MLT 1092 + MLT 1390 or 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 1592 - Clinical Coagulation Laboratory

1 credit hour(s)

(Pre- or corequisite: PHLB 1090) (Corequisite: MLT 1012 + MLT 1092 + MLT 1390 or 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: PHLB 1090) (Corequisite: MLT 1012 + MLT 1092 + MLT 1390 or 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 2011 - Clinical Chemistry

3 credit hour(s) (Pre- or corequisite: PHLB 1090) (Corequisite: MLT 1012 + MLT 1092 + MLT 1390 or 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: PHLB 1090) (Corequisite: MLT 1012 + MLT 1092 + MLT 1390 or 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.

Term 5 (Typically Offered Spring Only)

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 1192 - Clinical Immunology Laboratory

1 credit hour(s)

(Corequisites: 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 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 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 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.

Term 6 (Typically Offered Summer Only)

MLT 2790 - MLT Clinical Experience

10 credit hour(s)

(Prerequisites: MLT 1014 + MLT 1192 + MLT 1511 + MLT 1792 + MLT 2010 + MLT 2592)

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)

- 450 clinical hours

- Typically offered Summer term only.

Associate of Applied Science in Medical Laboratory Technician 74-83 credit hour(s)

Phlebotomy Technician, Certificate of Achievement

School of Health, Wellness & Public Safety (HWPS)

Description

Phlebotomists collect and process blood specimens using approved venipuncture and capillary puncture techniques. Requires a high level of professionalism when working with patients.

Special Requirements

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

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **High School Diploma or Equivalent**
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency
- HLTH 1001

Learning Community Option

Term 1

MLT 1001 - Preparation for Medical Lab Sciences

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

An introduction to the Medical Laboratory industry and the skills necessary to succeed in laboratory education and careers. Includes necessary compliance requirements, 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.

PHLB 1010 - Phlebotomy Theory

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 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

3 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)

- 135 clinical 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

Or

2-Term Option (With Department Approval Only)

Term 1

MLT 1001 - Preparation for Medical Lab Sciences

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

An introduction to the Medical Laboratory industry and the skills necessary to succeed in laboratory education and careers. Includes necessary compliance requirements, 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.

PHLB 1010 - Phlebotomy Theory

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 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 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

Term 2

PHLB 1090 - Clinical Phlebotomy

3 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)

- 135 clinical hours

Certificate of Achievement in Phlebotomy Technician 11 credit hours(s)

Medical Office Assistant

Medical Office Assistant, Certificate of Completion

School of Business & Information Technology (BIT)

Description

The Medical Office Assistant program offers entry-level office-related skills for students who prefer 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.

Career and Educational Opportunities

Educational Opportunities

The courses in this program may be applied toward an Office Technology certificate or an associate of applied science degree.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Graduates are employed in physicians' offices and health organizations as medical office receptionists or medical office assistants. The New Mexico Department of Labor indicates that offices and clinics of medical doctors is one industry subsector with the largest projected number of jobs in Albuquerque.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

CIS 1130 - Windows

1 credit hour(s) Explores basic elements of Windows with emphasis on software functions.
Note(s)

- 10 theory hours
- 15 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1161 - Records and Information Management

2 credit hour(s) (Recommended course: 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. This course was previously called OTEC 1160 Records Management.
Note(s)

- 30 theory hours

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.
Note(s)

- 15 theory hours

Term 2

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

OTEC 1125 - 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.

OTEC 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

- **Program Approved Elective 2-3 credit hour(s)**

Certificate of Completion in Medical Office Assistant 31-32 credit hour(s)

Program Approved Electives

BA 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

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.

CIS 1150 - MS Outlook

1 credit hour(s)

(Recommended course: CIS 1130)*

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)

- 10 theory hours
- 15 lab hours

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

- Foreign Language Elective **3-4 credit hour(s)**

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*.

or

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 2201 - Document Production and Integration

3 credit hour(s) (Prerequisite: CIS 1120) (Pre- or corequisite: CIS 1173)(Recommended course:OTEC 1193)

Create and format documents to develop business document production skill. Presents advanced applications for document integration.
Note(s)

- 30 theory hours

- 45 lab hours

OTEC 2270 - Medical Transcription

3 credit hour(s) (Prerequisite: BA 1121 + CIS 1120 or OTEC 1143 + OTEC 1192 + 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)

- 30 theory hours
- 45 lab hours

OTEC 2095 - Cooperative Education

3 credit hour(s) (Prerequisite: department approval)(Recommended course: CIS 1120 + BA 1121)

Requires a minimum of 150 hours in a new office-related position. If the student is currently employed in area of study, the 150 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.
Note(s)

- Previously OTEC 299
- 135 lab hours

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, Recommended prerequisite: CIS 1120 + BA 1121)

Requires a minimum of 150 hours at office-related supervised workstations. If the student is currently employed in area of study, the 150 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.
Note(s)

- Previously OTEC 298
- 135 lab hours

Modern Languages

Modern Languages (AA), Spanish Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

Modern Languages courses develop listening, reading, and writing skills of 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.

The two year 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.

Career Opportunities

Part of this degree will include certificates for languages; this can be used on resume' and employment applications for our graduates.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Program Approved Elective 4-6 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **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)** (any ARBC, FREN, PORT)
- **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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Modern Language Elective 4 credit hour(s)** (any ARBC, FREN, PORT)
- Program Approved Elective **6 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)**

Associate of Arts in Modern Languages, Spanish Concentration 61-66 credit hour(s)

Program Approved Electives

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 scores)

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 1111 - Heritage Spanish Language

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 scores)

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 scores)

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 2277 - The Art and Skill of Translation

3 credit hour(s) (Prerequisites: 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 form 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) (Prerequisite: RDG 0950 or appropriate placement score or department approval)

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.

Spanish Language, Certificate of Completion

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Reading 2 Proficiency

Beginning/Heritage Track

Program Requirements

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

or

SPAN 1111 - Heritage Spanish Language

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 1102 - Beginning Spanish II

4 credit hour(s) (Prerequisite: SPAN 1101 or appropriate placement scores)

Continues course of study begun in SPAN 1101: listening, speaking, grammatical skills. Includes an online workbook and lab manual.

or

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 2201 - Intermediate Spanish I

3 credit hour(s) (Prerequisite: SPAN 1102 or appropriate placement scores)

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 scores)

Reviews grammar with an emphasis on writing skills. Provides conversational activities to increase fluency.

SPAN 2277 - The Art and Skill of Translation

3 credit hour(s) (Prerequisites: 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 form English to Spanish.
Note(s)

- Class conducted in Spanish.

or

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.

Or

Accelerated Track

Program Requirements

SPAN 2375 - Accelerated Beginning Spanish

6 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score or department approval)

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.

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 2277 - The Art and Skill of Translation

3 credit hour(s) (Prerequisites: 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 form English to Spanish.
Note(s)

- Class conducted in Spanish.

or

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.

Certificate of Completion in Spanish Language 17-18 credit hour(s)

Nursing

Nurse Refresher

School of Health, Wellness & Public Safety (HWPS)

Description

- 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) (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) (Prequisite: 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

Nursing (AAS), LPN Mobility Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

This program allows qualified licensed practical nurses to complete their Associate of Applied Science in Nursing (AASN) by entering into the third term of the Nursing (AAS), Nursing Concentration program. The last entry point for LPN Mobility students is fall 2014. 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.

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. Specific terms of licensure can be obtained through the New Mexico Board of Nursing. The LPN Mobility program is accredited by the Accreditation Commission for Education in Nursing (ACEN).

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.

Requirements for entering clinical courses

Demonstrated competence in Basic Patient Care skills is required. Students accomplish this by successfully demonstrating the skills at a Competency Check-Off Session, completing the NA or BPCS courses at CNM, have a current NM CNA Certification or complete Nursing 223 at the University of New Mexico. The skills competence (Competency Check-Off Session, BPCS 1010, or UNM NURS 223) must be completed no more than 24 months before the student's start date in the Nursing Program.

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 HWPS Office at (505) 224- 4111 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

Nursing program graduates find employment in hospitals, long-term care facilities, home health care and physicians' offices. Practical work under the supervision of registered nurses, physicians, or dentists. Nurses can attain specialty credentials through employment and specialty course offering. CNM nursing students are encouraged to continue their education toward a bachelor of science in nursing degree in order to pursue leadership positions in nursing and in the community.

Graduates of the program meet the requirements set by the New Mexico State Board of Nursing to take the NCLEX-PN licensing examination.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency

- Math 2 Proficiency

or

- Math 3 Proficiency (Recommended)

- Reading 2 Proficiency
- Biology Proficiency

Required Courses

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1330 Recommend)

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM

1710] or appropriate placement scores)(Recommended course: 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) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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) (Prerequisites: 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 course: 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) (Prerequisites: 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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

PSY 2220 - Developmental Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes physical, social, emotional and intellectual development across the life span, including

professional research and applications.

Term 1

NURS 2084 - Concepts for LPN to RPN Transitioning Students

2 credit hour(s) (Pre- or corequisites: ENG 1101 + NUTR 2110 + BIO 2110 + BIO 2192 + BIO 2310 + BIO 2392 + PSY 1105 + PSY 2220 + NURS 1007 + NURS 2002 + department approval)

Facilitates the transition from the role of Licensed Practical Nurse to that of a student preparing for the role of Registered Nurse. The focus is the transformation of Professional Practice guided by paradigms, core concepts and competencies. Required for ALL LPNs for advanced placement in the Associate Degree Nursing program. Current LPN State of New Mexico license required for enrollment.

NURS 1007 - Dosage Calculations (CR/NC)

1 credit hour(s) (Prerequisites: AAS Mathematics Requirement (MATH 1330 Recommend)* + department approval)

Presents methods of dosage calculations for oral and parental medications, including intravenous therapy and pediatric dosages.

NURS 2002 - Pharmacology in Nursing

3 credit hour(s) (Prerequisites: BIO 2310 + BIO 2392 + department approval)

Introduces the concepts necessary for nursing judgment in the use of chemical agents and the theoretical base required to administer medications. Information covers drugs in current use, including pharmackinetics, pharmacodynamics, therapeutic uses, adverse reactions, precautions and contraindications.

Term 2

NURS 2580 - Family Nursing

10 credit hour(s) (Prerequisites: NURS 1580 + NURS 2002 + PSY 1105 + PSY 2220 + department approval) (Pre- or corequisite: BIO 2110 + BIO 2192 + ENG 1101 + MATH 1210)

Integrates the study of clients with complex pathological conditions. Introduces nursing care of the mother and neonate. Clinical: Experiences with medical, surgical, maternal, neonate and behavioral health clients in hospital and/or community-based health care settings.
Note(s)

- 75 theory hours
- 225 clinical hours

Term 3

NURS 2680 - Complex Health Problems

9 credit hour(s) (Prerequisites: NURS 2580 + department approval) (Pre- or corequisite: IT 1010)

Studies the impact of complex multi-system health problems on individuals and families, including the

pediatric client. Includes psychiatric disorders, cultural factors and practice issues. Clinical: Providing and managing care of clients across the lifespan.
Note(s)

- 60 theory hours
- 225 clinical hours

NURS 2515 - Manager of Care

1 credit hour(s) (Prerequisite: NURS 2580 + department approval)

Introduces management principles to prepare the ADN nurse to manage care of groups of clients. Clinical application in NURS 2680.

Associate of Applied Science in Nursing, LPN Mobility Concentration 72-73 credit hour(s)

Upon completion of the program, the 18 credit hours for NURS 1080 and NURS 1580 will be awarded to the students.

Nursing (AAS), NMNEC Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

The Nursing (NMNEC) option emphasize 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.

CNM will offer the common New Mexico Nursing Education Consortium (NMNEC) curriculum.

Special Requirements

HESI A2 Exam minimum composite score of 75%; minimum subtest scores of 75% in Math, Reading, Grammar, Biology, Chemistry and Vocabulary.

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 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

Educational Opportunities

Graduates meet the requirements set by the New Mexico State Board of Nursing to take the NCLEX-RN licensing examination. This program is accredited through the Accreditation Commission for Education in

Nursing (ACEN) and a participating member in the New Mexico Nursing Education Consortium (NMNEC).

Nursing students are encouraged to continue their education toward a bachelor of science in nursing degree in order to pursue leadership positions in nursing and in the community and obtain specialty credentials.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Assessment Cycle Plans and Reports for this program of study are available.

Employment Information

Graduates find employment in hospitals, long-term care facilities, home health care and physicians' offices.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- HESI A2 Exam
- English 2 Proficiency

- Math 2 Proficiency

or

- Math 3 Proficiency (Recommended)

- Reading 2 Proficiency
- Biology Proficiency

Required Courses (1 or 2 Terms)

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1330 Recommended)

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM

1710] or appropriate placement scores)(Recommended course: 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) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 2

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

NRSG 1010 - Introduction to Nursing Concepts

3 credit hour(s) (Prerequisite: ENG 1101 + MATH 1210 or higher + BIO 2210 + BIO 2110 + BIO 2192 + IT 1010 + PSY 1105 + department approval) (Pre- or corequisite: BIO 2310 + PSY 2220) (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

PSY 2220 - Developmental Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes physical, social, emotional and intellectual development across the life span, including professional research and applications.

Term 3

BIO 2710 - Pathophysiology I

3 credit hour(s)

(Prerequisites: BIO 2110 + BIO 2192 + BIO 2210 + BIO 2310) (Recommended course: BIO 2292 + BIO 2392)*

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 and BIO 2392 prior to taking BIO 2710 as the Human Anatomy and Physiology Lab experience is useful in mastering the concepts studied in BIO 2710.

NRSG 1510 - Health and Illness Concepts I

3 credit hour(s) (Prerequisite: BIO 2310 + NRSG 1010 + NRSG 1015 + PSY 2220) (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 indiviual, a family, or a community. This course uses seminar, laboratory and/or clinical.
Note(s)

- 15 theory hours
- 135 clinical hours

Term 4

BIO 2711 - Pathophysiology II

3 credit hour(s)

(Prerequisite: BIO 2710) (Recommended course: BIO 2292 + 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.

NRSG 2010 - Health & Illness Concepts II

3 credit hour(s) (Prerequisite: BIO 2710 + 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: NRSG 2010 + NRSG 2090)

This course covers foundational concepts for professional development, including selected professional attributes and care competencies.

NRSG 2090 - Care of Patients with Chronic Conditions

4 credit hour(s) (Corequisite: NRSG 2010 + NRSG 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 cuuricular concepts. This course is a combination of lab and clinical.
Note(s)

- 180 clinical hours

Term 5

NRSG 2510 - Health & Illness Concepts

4 credit hour(s) (Prerequisite: BIO 2711 + NRSG 2010 + NRSG 2020 + NRSG 2090) (Corequisite: NRSG 2515 + NRSG 2999)

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.

NRSG 2515 - Clinical Intensive I

4 credit hour(s)

(Corequisite: NRSG 2510 + NRSG 2999)

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

NRSG 2999 - ADN Capstone

6 credit hour(s) (Corequisite: NRSG 2510 + NRSG 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

Associate of Applied Science in Nursing, Nursing NMNEC Concentration 75-76 credit hour(s)

Nursing Assistant

Nursing Assistant, Certificate of Achievement

School of Health, Wellness & Public Safety (HWPS)

Special Requirements

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 HWPS Office at (505) 224- 4111 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 Opportunities

Gainful Employment information is available from Job Connection Services. Jobs are available in hospitals, outpatient clinics, nursing homes, and private homes. Exit competencies for this program of study are available at cnm.edu/exitcomp For the graduation policy refer to the Graduating From CNM section.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 2 Proficiency

Required Sequence of Courses

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

NA 1015 - Nursing Assistant

6 credit hour(s)

(Prerequisite: RDG 0950 + ENG 0750 or ESOL 0751 + MATH 0750 or appropriate placement scores) (Pre- or corequisite: HLTH 1001)*

Students learn basic anatomy and physiology, communication and clinical math skills. Includes basic patient care skills necessary to work in a nursing home, private home or hospital setting. Personal care, restorative care skills, vital signs and lifting are some of the skills taught in a lab setting. This course also provides the opportunity to practice supervised basic patient care skills in a long-term care setting.

* HLTH 1001 must be completed prior to beginning the clinical portion of the course. The clinical portion is designated by HOSP in the CNM Schedule of Classes
Note(s)

- At the completion of this course, students are eligible to take the state certification exam (CNA) and will also receive a Nursing Assistant, Certificate of Achievement
- 60 theory hours
- 45 lab hours
- 45 clinical hours

Certificate of Achievement in Nursing Assistant 7 credit hour(s)

Nutrition

Nutrition, Associate of Science

School of Math, Science & Engineering (MSE)

Description

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.

The two-year 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 the CNM Academic Advising Center.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Associate of Science Degree Program.

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment and transfer into a baccalaureate program.

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- Main Campus

Special Requirements

Students are expected to purchase textbooks, lab manuals and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000, Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

Term 2

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Fine Arts Approved Requirement 3 credit hour(s)**

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

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

Term 3

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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) (Prerequisites: 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

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 course: 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

- **Humanities Approved Requirement 3 credit hour(s)**

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 4

CHEM 2710 - Organic Chemistry I

3 credit hour(s) (Prerequisite: CHEM 1810/CHEM 1892)

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.

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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) (Prerequisites: 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

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Modern Language Approved Requirement 3 credit hour(s)**
- **Humanities Approved Requirement 3 credit hour(s)**

Associate of Science in Nutrition 65 credit hour(s)

Program Approved Requirements

Social/Behavioral Sciences

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces concepts and practices of linguistics and anthropology. Study of the systematic nature of language: phonology, morphology, syntax, semantics and pragmatics.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

GEOG 1102 - Human Geography

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate scores)

Introduces the human elements of world geography, providing a systematic analysis of world population, religion, language, ethnicity, economic development, political units and resource issues.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Humanities

ENG 1150 - Study Of Literature

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Introduces the academic study of literature.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

PHIL 1110 - Introduction to Philosophical Thought

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

RLGN 1107 - Living World Religions

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores.)

Introduces the academic study of religion, focusing on major world religions: religions on antiquity, Hinduism, Buddhism, Taoism, Judaism, Christianity, Islam and religion in primal cultures.

RLGN 2263 - Eastern Religions

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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).

Modern Language

FREN 1101 - Beginning French I

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 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.

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 scores)

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 1111 - Heritage Spanish Language

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 2201 - Intermediate Spanish I

3 credit hour(s) (Prerequisite: SPAN 1102 or appropriate placement scores)

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 scores)

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 2375 - Accelerated Beginning Spanish

6 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score or department approval)

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.

Fine Arts

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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.

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

Office Assistant

Office Assistant, Certificate of Completion

School of Business & Information Technology (BIT)

Description

The Office Assistant 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.*

Career and Educational Opportunities

Educational Opportunities

The courses in this program may be applied toward an Office Technology certificate or an Associate of Applied Science degree. Many graduates decide to continue for their Office Technology Certificate or Associate of Applied Science degree.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1161 - Records and Information Management

2 credit hour(s) (Recommended course: 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. This course was previously called OTEC 1160 Records Management.
Note(s)

- 30 theory hours

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.
Note(s)

- 15 theory hours

Term 2

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 1130 - Windows

1 credit hour(s) Explores basic elements of Windows with emphasis on software functions.
Note(s)

- 10 theory hours
- 15 lab hours

CIS 1150 - MS Outlook

1 credit hour(s)

(Recommended course: CIS 1130)*

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)

- 10 theory hours
- 15 lab hours

OTEC 1125 - 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.

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

- **Program Approved Elective 2-3 credit hour(s)**

Certificate of Completion in Office Assistant 30-31 credit hour(s)

Program Approved Electives

BA 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

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.

CIS 1145 - Microsoft Powerpoint

2 credit hour(s)

(Recommended course: 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)

- 20 theory hours
- 30 lab hours

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

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*.

or

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 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

OTEC 1193 - Keyboard Skillbuilding II

1 credit hour(s) (Prerequisite: OTEC 1192)

Focuses on building speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required.
Note(s)

- 45 lab hours

OTEC 2095 - Cooperative Education

3 credit hour(s) (Prerequisite: department approval)(Recommended course: CIS 1120 + BA 1121)

Requires a minimum of 150 hours in a new office-related position. If the student is currently employed in area of study, the 150 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.
Note(s)

- Previously OTEC 299
- 135 lab hours

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, Recommended prerequisite: CIS 1120 + BA 1121)

Requires a minimum of 150 hours at office-related supervised workstations. If the student is currently employed in area of study, the 150 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.
Note(s)

- Previously OTEC 298
- 135 lab hours

OTEC 2201 - Document Production and Integration

3 credit hour(s) (Prerequisite: CIS 1120) (Pre- or corequisite: CIS 1173)(Recommended course:OTEC 1193)

Create and format documents to develop business document production skill. Presents advanced applications for document integration.
Note(s)

- 30 theory hours
- 45 lab hours

Office Technology

Medical Office Transcription, Certificate of Completion

School of Business & Information Technology (BIT)

Description

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, office accounting, 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.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Graduate job placement for office technology (previously office administration) has been 88 to 100 percent since 1997. The office technology profession offers a challenging and rewarding career. The program provides graduates with the foundation to move into positions with more responsibility and higher wages. Many administrative professionals are taking over duties once held by middle managers. Employment growth is expected in the office administration profession. According to the U.S. Department of Labor, opportunities should be best for applicants with extensive knowledge of software applications.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

Term 2

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

Term 3

OTEC 1193 - Keyboard Skillbuilding II

1 credit hour(s) (Prerequisite: OTEC 1192)

Focuses on building speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings

is required.
Note(s)

- 45 lab hours

OTEC 2270 - Medical Transcription

3 credit hour(s) (Prerequisite: BA 1121 + CIS 1120 or OTEC 1143 + OTEC 1192 + 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)

- 30 theory hours
- 45 lab hours

Certificate of Completion in Medical Office Transcription 21 credit hour(s)

Office Technology (AAS), Medical Concentration

School of Business & Information Technology (BIT)

Description

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, office accounting, 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.

Career and Educational Opportunities

This associate degree is designed to transfer to UNM Organizational Learning & Instructional Technology (OLIT) program to prepare students to earn a bachelor of science degree. For information regarding application procedures, program descriptions, faculty profiles, and other student resources, contact UNM.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Graduate job placement for office technology (previously office administration) has been 88 to 100 percent since 1997. The office technology profession offers a challenging and rewarding career. The program provides graduates with the foundation to move into positions with more responsibility and higher wages. Many administrative professionals are taking over duties once held by middle managers.

Employment growth is expected in the office administration profession. According to the U.S. Department of Labor, opportunities should be best for applicants with extensive knowledge of software applications.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding

instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1161 - Records and Information Management

2 credit hour(s) (Recommended course: 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. This course was previously called OTEC 1160 Records Management.
Note(s)

- 30 theory hours

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.
Note(s)

- 15 theory hours

Term 2

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*****

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1125 - 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.

OTEC 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

Term 3

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

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

OTEC 2201 - Document Production and Integration

3 credit hour(s) (Prerequisite: CIS 1120) (Pre- or corequisite: CIS 1173)(Recommended course:OTEC 1193)

Create and format documents to develop business document production skill. Presents advanced applications for document integration.
Note(s)

- 30 theory hours
- 45 lab hours

Term 4

- **Communication Requirement 3 credit hour(s)**

HIT 1030 - Health Data Content and Structure

4 credit hour(s) (Pre- or corequisite: ENG 0950 + MATH 0930 + RDG 0950 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, accrediation and licensure standards applicable to health records.

- **Human Relations Requirement 3 credit hour(s)**

OTEC 2260 - Business Procedures

3 credit hour(s) (Prerequisite: BA 1121 + CIS 1120) (Pre- or corequisite: CIS 1173 + OTEC 2201) (Recommended course: OTEC 1193 + BA 1122)

Covers office procedures, technology, records management, human relations, ethics, telecommunications and job portfolio.

OTEC 2270 - Medical Transcription

3 credit hour(s) (Prerequisite: BA 1121 + CIS 1120 or OTEC 1143 + OTEC 1192 + 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)

- 30 theory hours
- 45 lab hours

Associate of Applied Science in Office Technology, Medical Concentration 65-66 credit hour(s)

Office Technology (AAS), Office Technology Concentration

School of Business & Information Technology (BIT)

Description

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, office accounting, 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.

Career and Educational Opportunities

Educational Opportunities

This associate degree is designed to transfer to UNM Organizational Learning & Instructional Technology (OLIT) program to prepare students to earn a bachelor of science degree. For information regarding application procedures, program descriptions, faculty profiles, and other student resources, contact UNM.

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Employment Information

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- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1161 - Records and Information Management

2 credit hour(s) (Recommended course: 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. This course was previously called OTEC 1160 Records Management.
Note(s)

- 30 theory hours

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.
Note(s)

- 15 theory hours

Term 2

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

BA 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

CIS 1150 - MS Outlook

1 credit hour(s)

(Recommended course: CIS 1130)*

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)

- 10 theory hours
- 15 lab hours

OTEC 1125 - 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.

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

Term 3

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

CIS 1145 - Microsoft Powerpoint

2 credit hour(s)

(Recommended course: 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)

- 20 theory hours
- 30 lab hours

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

OTEC 1193 - Keyboard Skillbuilding II

1 credit hour(s) (Prerequisite: OTEC 1192)

Focuses on building speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required.
Note(s)

- 45 lab hours

OTEC 2201 - Document Production and Integration

3 credit hour(s) (Prerequisite: CIS 1120) (Pre- or corequisite: CIS 1173)(Recommended course:OTEC 1193)

Create and format documents to develop business document production skill. Presents advanced applications for document integration.
Note(s)

- 30 theory hours
- 45 lab hours

Term 4

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

- **Communication Requirement 3 credit hour(s)**

- **Human Relations Requirement 3 credit hour(s)**

OTEC 2260 - Business Procedures

3 credit hour(s) (Prerequisite: BA 1121 + CIS 1120) (Pre- or corequisite: CIS 1173 + OTEC 2201) (Recommended course: OTEC 1193 + BA 1122)

Covers office procedures, technology, records management, human relations, ethics, telecommunications and job portfolio.

- **Program Approved Elective 2-3 credit hour(s)**

Associate of Applied Science in Office Technology, Office Technology Concentration 62-64 credit hour(s)

Program Approved Electives

ACCT 1410 - Quickbooks Complete

3 credit hour(s) (Recommended course: ACCT 1111)

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.
Note(s)

- Previously ACCT 1411 + ACCT 1412 + ACCT 1413
- This course must be taught in a computer lab classroom

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.

CIS 1183 - Access Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Access software from creating basic databases, macros and advanced design tools in databases.
Note(s)

- This course is offered via distance learning only
- This course may substitute for CIS 1180, CIS 1181 and CIS 1182
- 30 theory hours
- 45 lab hours

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)

- 30 theory hours
- 45 lab hours

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)

- 15 theory hours
- 30 lab hours

FIN 1010 - Financial Literacy Complete

3 credit hour(s) (Recommended course: ENG 0950 + RDG 0950)

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.

- **Foreign Language 3-4 credit hour(s)**

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*.

or

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 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

OTEC 2095 - Cooperative Education

3 credit hour(s) (Prerequisite: department approval)(Recommended course: CIS 1120 + BA 1121)

Requires a minimum of 150 hours in a new office-related position. If the student is currently employed in area of study, the 150 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.
Note(s)

- Previously OTEC 299
- 135 lab hours

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, Recommended prerequisite: CIS 1120 + BA 1121)

Requires a minimum of 150 hours at office-related supervised workstations. If the student is currently employed in area of study, the 150 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.
Note(s)

- Previously OTEC 298
- 135 lab hours

OTEC 2270 - Medical Transcription

3 credit hour(s) (Prerequisite: BA 1121 + CIS 1120 or OTEC 1143 + OTEC 1192 + 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)

- 30 theory hours
- 45 lab hours

Office Technology (Certificate of Completion), Medical Concentration

School of Business & Information Technology (BIT)

Description

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, office accounting, 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.

Career and Educational Opportunities

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Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Graduate job placement for office technology (previously office administration) has been 88 to 100 percent since 1997. The office technology profession offers a challenging and rewarding career. The program provides graduates with the foundation to move into positions with more responsibility and higher wages. Many administrative professionals are taking over duties once held by middle managers.

Employment growth is expected in the office administration profession. According to the U.S. Department of Labor, opportunities should be best for applicants with extensive knowledge of software applications.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1161 - Records and Information Management

2 credit hour(s) (Recommended course: 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. This course was previously called OTEC 1160 Records Management.
Note(s)

- 30 theory hours

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.
Note(s)

- 15 theory hours

Term 2

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

BA 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1125 - 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.

OTEC 1175 - Computers in the Medical Office

2 credit hour(s) (Recommended course: IT 1010)

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. This course was previously called OTEC 1174 Computers in the Medical Office.
Note(s)

- 15 theory hours
- 45 lab hours

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

Term 3

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

OTEC 2201 - Document Production and Integration

3 credit hour(s) (Prerequisite: CIS 1120) (Pre- or corequisite: CIS 1173)(Recommended course:OTEC 1193)

Create and format documents to develop business document production skill. Presents advanced applications for document integration.
Note(s)

- 30 theory hours
- 45 lab hours

Certificate of Completion in Office Technology, Medical Concentration 46 credit hour(s)

Office Technology (Certificate of Completion), Office Technology Concentration

School of Business & Information Technology (BIT)

Description

The Office Technology program provides opportunities for individuals to develop marketable skills in the areas of office procedures, interpersonal relations, office technology, office accounting, 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.

Career and Educational Opportunities

This associate degree is designed to transfer to UNM Organizational Learning & Instructional Technology (OLIT) program to prepare students to earn a bachelor of science degree. For information regarding application procedures, program descriptions, faculty profiles, and other student resources, contact UNM.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Graduate job placement for office technology (previously office administration) has been 88 to 100 percent since 1997. The office technology profession offers a challenging and rewarding career. The program provides graduates with the foundation to move into positions with more responsibility and higher wages. Many administrative professionals are taking over duties once held by middle managers.

Employment growth is expected in the office administration profession. According to the U.S. Department of Labor, opportunities should be best for applicants with extensive knowledge of software applications.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

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: RDG 0750 + ENG 0750 or appropriate placement score or departmental approval)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

OTEC 1101 - Beginning Keyboarding

3 credit hour(s) Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required. This course will integrate keyboarding instruction with mouse navigation, the Internet, file management, and word processing.
Note(s)

- 30 theory hours
- 45 lab hours

OTEC 1161 - Records and Information Management

2 credit hour(s) (Recommended course: 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. This course was previously called OTEC 1160 Records Management.
Note(s)

- 30 theory hours

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.
Note(s)

- 15 theory hours

Term 2

ACCT 1109 - Business Math

3 credit hour(s)

(Recommended course: MATH 0930 or appropriate placement scores)*

Applies basic arithmetic operations to business applications and accounting.

* Students need to have basic math skills for this course.
Note(s)

- This course is a Pre- or corequisite for ACCT 1110 + ACCT 1112

BA 1122 - Business Writing

3 credit hour(s) (Prerequisite: BA 1121. Recommended Prerequisite: 25 wpm typing skill)

Builds on principles presented in BA 1121 and integrates those principles in composing effective business letters, memos and reports; students develop oral presentation skills.

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours

- 45 lab hours

CIS 1150 - MS Outlook

1 credit hour(s)

(Recommended course: CIS 1130)*

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)

- 10 theory hours
- 15 lab hours

OTEC 1125 - 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.

OTEC 1192 - 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)

- 15 theory hours
- 45 lab hours

Term 3

BA 1101 - Introduction to Business

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores or department approval)

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.

CIS 1145 - Microsoft Powerpoint

2 credit hour(s)

(Recommended course: 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)

- 20 theory hours
- 30 lab hours

CIS 1173 - Excel Complete

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Covers Excel software from creating and editing spreadsheets to advanced data analysis tools.
Note(s)

- This course may substitute for CIS 1170
- 30 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

OTEC 1193 - Keyboard Skillbuilding II

1 credit hour(s) (Prerequisite: OTEC 1192)

Focuses on building speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required.
Note(s)

- 45 lab hours

OTEC 2201 - Document Production and Integration

3 credit hour(s) (Prerequisite: CIS 1120) (Pre- or corequisite: CIS 1173)(Recommended course:OTEC 1193)

Create and format documents to develop business document production skill. Presents advanced applications for document integration.
Note(s)

- 30 theory hours
- 45 lab hours

Certificate of Completion in Office Technology, Office Technology Concentration 45 credit hour(s)

Paralegal Studies

Paralegal Studies, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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).

Career Opportunities

Gainful Employment information is available from Job Connection Services. Employment opportunities include placement in law firms, corporate legal departments, legal aid offices, public agencies and insurance companies. Students with a criminal background may have limited employment opportunities. Students should contact appropriate agencies and employers for hiring and employment practices. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Human Relations Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

PL 1110 - Introduction to Paralegal Studies

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 or appropriate placement scores, Recommended prerequisite: 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.

PL 1120 - American Law and Ethics

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 or appropriate placement scores, Recommended Prerequisite: 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.

Term 2

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

PHIL 1156 - Logic and Critical Thinking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 3

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommended)*****

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 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) (Prerequisites: CIS 1120 + ENG 1102 + PL 1130 + PL 1140) (Recommended corequisite: CJ 2515)

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.

Term 4

- **Approved AAS Elective 3 credit hour(s)**

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 2220 - Wills Probate and Estate Planning

3 credit hour(s) (Prerequisites: 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 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

or

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

Associate of Applied Science in Paralegal Studies 73 credit hour(s)

* Recommended if planning on transferring to a 4-year degree.

Approved AAS Electives

ACCT 1111 - Accounting IA

3 credit hour(s)

(Recommended course: MATH 0930 + RDG 0950 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110
- Students going on to ACCT 1112 should take ACCT 1109 or MATH 1315 or higher with ACCT 1111

or

ACCT 1112 - 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)

- ACCT 1111 + ACCT 1112 are equivalent to ACCT 1110

CJ 1002 - Criminal Law

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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) (Prerequisites: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

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 1502 - Juvenile Law and Procedure

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 or appropriate placement scores)

Covers the juvenile court and justice system including the Children's Code and the Rules of Procedure.

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 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.

PL 1096-1996 - Special Topics

1-3 credit hour(s) (Prerequisite: departmant approval)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

and/or

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 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 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 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.

Paralegal Studies, Post Degree Certificate of Completion

School of Health, Wellness & Public Safety (HWPS)

Description

Students must have a bachelor's or an associate's 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.

Special Requirements

Students must have department approval to declare the Post Degree Paralegal Studies Certificate as their major.

Career and Educational Opportunities

Assessment Cycle Plans and Reports for this program of study are available.

- Gainful Employment information is available from Job Connection Services.

- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Department Approval Program

Program Requirements

BA 1121 - Business English

3 credit hour(s) (Prerequisites: RDG 0750 + ENG 0750 or appropriate placement scores)

Focuses on the principles of effective written communication in the business environment. Emphasizes correct grammar, punctuation, sentence structure and vocabulary.

CIS 1120 - Microsoft Word

3 credit hour(s) (Prerequisite: IT 1010 or department approval)

Focuses on word processing using Microsoft Word for Windows with emphasis on functions and practical office applications.
Note(s)

- 30 theory hours
- 45 lab hours

PL 1110 - Introduction to Paralegal Studies

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 or appropriate placement scores, Recommended prerequisite: 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.

PL 1120 - American Law and Ethics

3 credit hour(s) (Prerequisites: ENG 0950 + RDG 0950 or appropriate placement scores, Recommended Prerequisite: 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.

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 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

or

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 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 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.

- **Program Approved Elective 3 credit hour(s)**

Post Degree Certificate in Paralegal Studies 36 credit hour(s)

Program Approved Electives

PL 1096-1996 - Special Topics

1-3 credit hour(s) (Prerequisite: departmant approval)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

or

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 2150 - Evidence

3 credit hour(s) (Prerequisites: CIS 1120 + ENG 1102 + PL 1130 + PL 1140) (Recommended corequisite: CJ 2515)

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) (Prerequisites: 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 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 Technician

Patient Care Technician (Certificate of Achievement), Nursing Assistant Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

To obtain a certificate of Achievement in Patient Care Tech, students must demonstrate basic patient care competency by completing the Nursing Assistant 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 insertion, EKG lead placement, venipuncture, point of care testing and other procedures related to the care of a patient in an acute care setting.

Special Requirements

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 Opportunities

Gainful Employment information is available from Job Connection Services. Jobs are available in hospitals, outpatient clinics, nursing homes, and private homes. Exit competencies for this program of study are available at cnm.edu/exitcomp For the graduation policy refer to the Graduating From CNM section.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

NA 1015 - Nursing Assistant

6 credit hour(s)

(Prerequisite: RDG 0950 + ENG 0750 or ESOL 0751 + MATH 0750 or appropriate placement scores) (Pre- or corequisite: HLTH 1001)*

Students learn basic anatomy and physiology, communication and clinical math skills. Includes basic patient care skills necessary to work in a nursing home, private home or hospital setting. Personal care, restorative care skills, vital signs and lifting are some of the skills taught in a lab setting. This course also provides the opportunity to practice supervised basic patient care skills in a long-term care setting.

* HLTH 1001 must be completed prior to beginning the clinical portion of the course. The clinical portion is designated by HOSP in the CNM Schedule of Classes
Note(s)

- At the completion of this course, students are eligible to take the state certification exam (CNA) and will also receive a Nursing Assistant, Certificate of Achievement
- 60 theory hours
- 45 lab hours
- 45 clinical hours

Term 2

PCT 1015 - Patient Care Tech

6 credit hour(s) (Prequisites: RDG 0950 + ENG 0950 + MATH 0930 or appropriate placement scores + HLTH 1001 + NA 1015 or EMS 1190 + BPCS 1010) (Corequisite: PCT 1090)

Provides students who have demonstrated competence in basic patient care skills 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, gastric intubation, EKG lead placement, venipuncture, point of care testing and other procedures related to the care of a patient in an acute care setting.
Note(s)

- 60 theory hours
- 90 lab hours

PCT 1090 - Patient Care Tech Clinical Experience

2 credit hour(s) (Correquisite: PCT 1015)

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 including health unit coordinator duties, on various inpatient units. Background check and drug screen required.
Note(s)

- 90 clinical hours

Certificate of Achievement in Patient Care Technician, Nursing Assistant Concentration 15 credit hour(s)

Patient Care Technician (Certificate of Completion), Emergency Medical Technician Concentration

School of Health, Wellness & Public Safety (HWPS)

Description

To obtain a Certificate of Completion in Patient Care Tech, students must demonstrate basic patient care competency by completing the courses required for the EMT-Basic program, plus the Basic Patient Care Skills course. 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 insertion, EKG lead placement, venipuncture, point of care testing and other procedures related to the care of a patient in an acute care setting.

Special Requirements

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

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

BPCS 1010 - Basic Patient Care Skills

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0950 or appropriate placement scores)

Introduces students to the principles of providing basic patient care including communication, patient safety and medical asepsis. Laboratory hours provide instruction and supervised practice of personal care skills, body mechanics, turning and transferring patients, vital signs, measuring and recording intake and output, restorative care. Demonstration of competency in all skills will be required at completion of course.
Note(s)

- 15 theory hours
- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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 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 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

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

Term 2

PCT 1015 - Patient Care Tech

6 credit hour(s) (Prequisites: RDG 0950 + ENG 0950 + MATH 0930 or appropriate placement scores + HLTH 1001 + NA 1015 or EMS 1190 + BPCS 1010) (Corequisite: PCT 1090)

Provides students who have demonstrated competence in basic patient care skills 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, gastric intubation, EKG lead placement, venipuncture, point of care testing and other procedures related to the care of a patient in an acute care setting.
Note(s)

- 60 theory hours
- 90 lab hours

PCT 1090 - Patient Care Tech Clinical Experience

2 credit hour(s) (Correquisite: PCT 1015)

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 including health unit coordinator duties, on various inpatient units. Background check and drug screen required.
Note(s)

- 90 clinical hours

Certificate of Completion in Patient Care Technician, Emergency Medical Technician Concentration 23 credit hour(s)

Pharmacy Technician

Pharmacy Technician, Certificate of Completion

School of Health, Wellness & Public Safety (HWPS)

Description

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 45-hour content-specific block of instruction dealing with the preparation of sterile intravenous products as required by the New Mexico Board of Pharmacy. After completion of this training, students are New Mexico Board of Pharmacy certified to prepare sterile products. The Pharmacy Technician Program is accredited by the American Society of Health-System Pharmacists (ASHP).

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

The Pharmacy Technician program typically has a high placement rate for its graduates. Jobs are available in hospitals, retail and specialty pharmacies. Graduates are eligible to take the National Certification exam for pharmacy technicians. Graduates who have taken the certification exam have consistently scored higher than the national average.

Students planning to continue their educations at higher education institutions are encouraged to take CHEM 1410/CHEM 1492 and COMM 2221.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency

or

- ENG 1101 (Recommended)

- Math 2 Proficiency
- Reading 2 Proficiency

- **CHEM 1410**

  and

- **CHEM 1492**

Term 1

This program's first term courses are offered every other term. This may delay a student's program start date. Please check with an academic advisor for more information.

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

PT 1003 - Pharmacy Calculations

3 credit hour(s) (Prerequisite: CHEM 1410 + CHEM 1492 + ENG 0950 + MATH 0930 + 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

Term 2

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2225 - Small-Group Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Examines group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making in small group processes.

or

COMM 2232 - Business and Professional Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite:

ENG 1101)

Emphasizes developing, organizing and supporting ideas in interpersonal business encounters, groups, teams, meetings, interviews and platform presentations.

PT 1510 - Advanced Pharmacy Technology

3 credit hour(s) (Prerequisite: PT 1010 + PT 1003 + PT 1015 + PT 1092 + IT 1010 + HLTH 1001) (Pre- or corequisites: 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 the opportunity in institutional and community pharmacies for practical experience in applying what they have learned in classrooms and labs.
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

Certificate of Completion in Pharmacy Technician 31 credit hour(s)

Physics

Physics, Associate of Science

School of Math, Science & Engineering (MSE)

Description

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.

The two-year 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 the CNM Academic Advising Center.

Skills needed for success

- Program Proficiencies

Educational Option Information

This educational option is a

- Associate of Science Degree Program

This educational option can be completed

- Part-Time or Full-Time

This educational option is designed for

- Immediate employment or transfer into a baccalaureate program.

This educational option can be started

- Any Term

Scheduling Information

- Follow course catalog recommendations to avoid scheduling problems.

Primary course location

- Main Campus

Special Requirements

Students are expected to purchase textbooks, lab manuals and lab safety equipment.

Information for people with felony convictions

- A felony conviction will not prevent entry into the program or employment; however, it may limit available employment opportunities.

Cost and Financial Aid

Financial Aid considerations

- Financial aid eligible program.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000. Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1410

  and

- MATH 1415

- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

- **Humanities Requirement 3 credit hours**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Fine Arts Requirement 3 credit hour(s)**

MATH 1715 - Calculus II

4 credit hour(s) (Prerequisite: MATH 1710)

Continues 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.

PHYS 1810 - Physics for Scientists and Engineers II

4 credit hour(s)

(Prerequisite: PHYS 1710) (Recommended course: PHYS 1892)* (Pre- or corequisite: MATH 1715)

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 - Physics for Scientists and Engineers II Laboratory

1 credit hour(s) (Corequisite: PHYS 1810)

Focuses on experiments in electricity, magnetism, optics.
Note(s)

- 45 lab hours

Term 3

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

MATH 2710 - Calculus III

4 credit hour(s) (Prerequisite: MATH 1715)

Continues course of study begun in MATH 1715 - Calculus II, including multivariate and vector calculus: level curves and surfaces, partial derivatives, gradients, tangent planes, directional derivatives, multiple integrals, cylindrical and spherical coordinates, applications. A Graphing calculator, TI 83 or TI 84, is required for this course. Other graphing calculator models need instructor approval.

PHYS 2710 - Physics for Scientists and Engineers 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.

- **Social/Behavioral Science Requirement 3 credit hours**

Term 4

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 course: 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

CSCI 1151 - Introduction to Programming for Non-Computer Science Majors

4 credit hour(s) (Prerequisite: MATH 1415)

Designed for non-computer science majors interested in programming, or developing useful problem solving skills; explores the relationship between programming and problem solving using programming languages.

or

CSCI 1152 - Introduction to Programming for Computer Science Majors

4 credit hour(s) (Prerequisite: MATH 1415 or higher)

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.

or

CSCI 1153 - Programming in Matlab

4 credit hour(s) (Prerequisite: MATH 1415 or higher)

An introduction to computing. The objective of the course is to help students understand of the relationship between computing and problem solving. A general understanding of matrices and basic computer knowledge are beneficial for success in this course.

- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hours**

Associate of Science in Physics 65 credit hour(s)

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)

Description

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.

Special Requirements

Text books, hand tools and personal protective equipment must be purchased. Students should be able to lift and carry at least 50 lbs. Students are required to plan their work and be able to understand detailed instructions. The ability to visualize completed systems before beginning to work on them is an important skill.

Fees: Course fees are published in the Schedule of Classes. These fees cover the cost of tools required for lab activities.

Career and Educational Opportunities

Career opportunities are available in the public and private sector. A master plumber working for a systems installation business may advance to become a contractor, an inspector, educator or official in the plumbing trade.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

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.

PLMB 1105 - Plumbing and Safety Fundamentals

3 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 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 1130 - Water Piping Systems

2 credit hour(s) (Pre- or corequisites: 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 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.

Term 2

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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 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 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

Term 3

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

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 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 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

Term 4

HVAC 1105 - Refrigerant Fundamentals

4 credit hour(s) (Prerequisites: ENG 0950 + MATH 0750 + RDG 0950 or appropriate placement score or department approval)

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 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 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 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 systemsincluding furnace and package systems and alternative heating sources. Emphasizes electrical and electronic trougle shooting, sevice, maintenance, repair and replacement of residential and light commercial heating systems.
Note(s)

- 15 theory hours
- 90 lab hours

Term 5

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities Requirement 3 credit hour(s)**

or

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

WELD 1062 - Welding Fundamentals

3 credit hour(s) (Recommended prerequisite: AUTC 1240 + DETC 1240 + MATT 1240 + PLMB 1235)

Designed for non-Welding majors, 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.
Note(s)

- 135 lab hours

Associate of Applied Science in Plumbing & Gas Fitting 72-73 credit hour(s)

Plumbing and Gas Fitting, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Special Requirements

Text books, hand tools and personal protective equipment must be purchased. Students should be able to lift and carry at least 50 lbs. Students are required to plan their work and be able to understand detailed

instructions. The ability to visualize completed systems before beginning to work on them is an important skill.

Fees: Course fees are published in the Schedule of Classes. These fees cover the cost of tools required for lab activities.

Career and Educational Opportunities

Career opportunities are available in the public and private sector. A master plumber working for a systems installation business may advance to become a contractor, an inspector, educator or official in the plumbing trade.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

PLMB 1105 - Plumbing and Safety Fundamentals

3 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 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 1130 - Water Piping Systems

2 credit hour(s) (Pre- or corequisites: 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 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.

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.

Term 2

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 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 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

Term 3

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 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 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

Certificate of Completion in Plumbing 38 credit hour(s)

Political Science

Political Science, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

Political Science is the study of political and governmental human behavior and 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.

Educational Option Information

This educational option is a

- Associate of Arts.

This educational option can be completed

- Part-Time or Full-Time.

This educational option is designed for

- Meeting the requirements for an Associate of Arts in Political Science from CNM and prepare a student to obtain a Bachelor of Arts in Political Scien from a 4-year college or university.

This educational option can be started

- Any term.

Primary course location

- Any CNM Campus.

Cost and Financial Aid

This program is eligible for Financial Aid.

Approximate Cost of Educational Option

Books and Fees (not including tuition)

- Approximately $2,500 - $3,000
- Individual courses associated with this program may require students to purchase additional materials.

Career and Educational Opportunities

Educational Opportunities

The Associates Degree is an important milestone for student pursuing either a baccalaureate degree or a graduate degree in the field. Core requirements for the baccalaureate are met through completion of the CNM Associate of Arts degree.

- Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Learn about career opportunities and pathways in political science and related fields from the American Political Science Association.

Prospects for Employment

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- 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) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- 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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- **Program Approved Elective 3 credit hour(s)**

Term 4

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

Associate of Arts in Political Science 60-61 credit hour(s)

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) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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 course: 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) (Prerequisite: RDG 0950)(Recommended course: 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.

PSCI 2280 - Introduction to Political Analysis

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 + 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

Polysomnography, Certificate of Achievement

School of Health, Wellness & Public Safety (HWPS)

Description

This program is designed for currently licensed respiratory care practitioners who are interested in a career in sleep medicine.

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. This program will prepare CRT or RRT credentialed individuals to take the Sleep Disorders Specialist exam offered by the National Board for Respiratory Care.

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.

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 HWPS Office at (505) 224- 4111 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

Graduates of the CNM Sleep Disorders Specialist Certification are employed by sleep labs and centers within New Mexico and throughout the nation. Graduates are eligible to take the Sleep Disorders Specialist Examination. They are also encouraged to continue education toward a bachelor of science degree in respiratory therapy, general science, education or management to pursue leadership positions in the field.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

RT 2220 - Introduction to Sleep Disorder Medicine

3 credit hour(s) (Prerequisite: ENG 0950 + MATH 0930 + RDG 0950 + department approval) (Corequisite: RT 2270 + RT 2290)

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.

RT 2270 - Sleep Disorders Principles and Practices

4 credit hour(s) (Corequisite: RT 2220 + RT 2290)

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

RT 2290 - Sleep Disorders Clinical Experience I

2 credit hour(s)

(Corequisite: RT 2220 + RT 2270)

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)

- 90 clinical hours

Term 2

RT 2670 - Sleep Disorders Principles and Practices II

4 credit hour(s) (Prerequisite: RT 2220 + RT 2270 + RT 2290) (Corequisite: RT 2690)

Presentation and discussion of psychomotor practices related to interpretation of polysomnographs of both adult and children. 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)

- 45 theory hours
- 45 lab hours

RT 2690 - Sleep Disorders Clinical Experience II

2 credit hour(s) (Corequisite: RT 2670)

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)

- 90 clinical hours

Certificate of Achievement in Polysomnography 15 credit hour(s)

Pre-Health Sciences

Pre-Health Science (AA), General Health Sciences Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

or

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**
- **Program Approved Elective 3-4 credit hour(s)** (lecture or lecture with lab)

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 3

- **Elective 6-8 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Program Approved Elective 3-4 credit hour(s)** (lecture or lecture with lab)
- **Social/Behavioral Science Requirement 3 credit hour(s)**

Term 4

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 9-12 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Program Approved Elective 2-3 credit hour(s)** (lecture or lecture with lab)

Associate of Arts in Pre-Health Sciences 61-70 credit hour(s)

Program Approved Electives

Students must successfully complete 8-9 credit hour(s) from the flowing

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.

BIO 1310 - Human Anatomy and Physiology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory

1 credit hour(s) (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

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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) (Prerequisites: 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 course: 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) (Prerequisites: 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 2710 - Pathophysiology I

3 credit hour(s)

(Prerequisites: BIO 2110 + BIO 2192 + BIO 2210 + BIO 2310) (Recommended course: BIO 2292 + BIO 2392)*

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 and BIO 2392 prior to taking BIO 2710 as the Human Anatomy and Physiology Lab experience is useful in mastering the concepts studied in BIO 2710.

Pre-Health Science (AA), Pre-Dental Assisting Concentration

School of Math, Science & Engineering (MSE)

Description

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. Read More.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

DA 1010 - Dental Science I

3 credit hour(s) (Prerequisites: RDG 0950 + MATH 0750 + ENG 0950 or appropriate placement scores)

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

- **Elective 3-4 credit hour(s)**

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 2

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 3-4 credit hour(s)**

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 3

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

- **Elective 3-4 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Mathematics Requirement 3-4 credit hour(s)**

Term 4

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

- **Elective 3-4 credit hour(s)**
- **Elective 3-4 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)** (Cannot be a Psychology Course)

Associate of Arts in Pre-Health Sciences, Pre-Dental Assisting Concentration 61-67 credit hour(s)

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Meet with a CNM Academic Advisor to create an individualized academic plan
- Visit the Dental Assisting website for more information about the program

Pre-Health Science (AA), Pre-Dental Hygiene Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **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)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

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.

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 4

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **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, Concentration in Pre-Dental Hygiene 63-64 credit hour(s)

Note

This information is meant to serve as a general guide for students intending to major in Dental Hygiene 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 required to attend a Dental Hygiene Advisement Session prior to applying to the program; see the UNM Dental Hygiene website for dates/times. After attending the session, students are also recommended to meet with a UNM advisor. Students who have high grades in science courses are most competitive for admission.

Pre-Health Science (AA), Pre-Diagnostic Medical Sonography Concentration

School of Math, Science & Engineering (MSE)

Description

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.

The Pre-Health Science, Pre-Diagnostic Medical Sonography concentration is specifically designed to

prepare students for entry into CNM's Diagnostic Medical Sonography, Associate of Applied Science.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

Term 2

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**

or

- **Social/Behavioral Sciences Requirement 3 credit hour(s) (Cannot be a Psychology course.)**

- **Humanities Requirement 3 credit hour(s)**

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 3

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 3-4 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 4

- **Elective 6-8 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

and

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

- **Social/Behavioral Science Requirement 3 credit hour(s) (Cannot be a Psychology course.)**

Associate of Arts in Pre-Health Sciences, Pre-Diagnostic Medical Sonography Concentration 61-64 credit hour(s)

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Meet with a CNM Academic Advisor to create an individualized academic plan
- Visit the CNM Diagnostic Medical Sonography website for more information about the program

Pre-Health Science (AA), Pre-Emergency Medical Services Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social

psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommended)*

PHIL 1110 - Introduction to Philosophical Thought

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

PHIL 2247 - Biomedical Ethics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Provides a forum for discussion of the ethical and social problems affecting the medical professional and the practice of medicine.

Term 3

HLTH 1001 is a required co-requisite for EMS1053

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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.

and

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

and

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

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

Term 4

- **Fine Arts Requirement 3 credit hour(s)**

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

or

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

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.

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Emergency Medical Services 61-62 credit hour(s)

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. 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.

* MATH 1315 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.

Pre-Health Science (AA), Pre-Exercise Science Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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,

databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**

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

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will

use this information in various professions.

Term 3

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Humanities Requirement 3 credit hour(s)**

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

- **Social/Behavioral Science Requirement 3 credit hour(s)** (cannot be a Psychology Course)

Term 4

- **Fine Arts Requirement 3 credit hour(s)**

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

PHYS 1010 - Introduction to Physics

3 credit hour(s)

(Prerequisite: RDG 0950 or appropriate placement scores. Recommended course: MATH 0940)*

Surveys basic concepts and phenomena of physics.

* A working knowledge of basic algebra is useful.

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.

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Exercise Science 62-63 credit hour(s)

Note

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.

Students are strongly recommended 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)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**

Term 3

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

- **Humanities Requirement 3 credit hour(s)**

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

- **Social/Behavioral Science Requirement 3 credit hour(s))**(Cannot be a Psychology Course)

Term 4

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Fine Arts Requirement 3 credit hour(s)**

PHYS 1010 - Introduction to Physics

3 credit hour(s)

(Prerequisite: RDG 0950 or appropriate placement scores. Recommended course: MATH 0940)*

Surveys basic concepts and phenomena of physics.

* A working knowledge of basic algebra is useful.

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Health Education: Community Health 62 credit hour(s)

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 recommended to meet with a UNM Health Education advisor to discuss their transfer plans. Contact information is available on the Health Education website.

Pre-Health Science (AA), Pre-Health Education: School Health Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite:

ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

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

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

Term 3

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 2260 - History of New Mexico

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys New Mexico's history from 1500 to the present: contributions of the interactions among Native Americans, Hispanics, Anglos and others.

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

- **Social/Behavioral Science Requirement 3 credit hour(s)*** (cannot be a Psychology Course)

Term 4

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

- **Fine Arts Requirement 3 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)** (Cannot be a HIST course)

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Health Education: School Health 62-63 credit hour(s)

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 recommended to meet with a UNM Health Education advisor to discuss their transfer plans. Contact information is available on the Health Education website.

Pre-Health Science (AA), Pre-Medical Laboratory Sciences Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **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)

(Prerequisite: BIO 2210)(Recommended course: 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.

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 course: 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.

and

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

- **Humanities Requirement 3 credit hour(s)**

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

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

Term 4

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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

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.

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Fine Arts Requirement 3 credit hour(s)**

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Medical Laboratory Sciences 63-64 credit hour(s)

Pre-Health Science (AA), Pre-Medical Laboratory Technician Concentration

School of Math, Science & Engineering (MSE)

Description

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.

The Pre-Health Science, Pre-Medical Laboratory Science concentration is specifically designed to prepare students for entry into CNM's Medical Laboratory Technician, Associate of Applied Science.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

or

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

and

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 course: 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.

and

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 2

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

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.

- **Elective 3-4 credit hour(s)**

- **Mathematics Requirement 3-4 credit hour(s)** (MATH 1210 or MATH 1310 fulfill the math requirement for the Medical Laboratory Sciences Program and may be used to fulfill elective credit for this AA degree)

Term 3

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **Social/Behavioral Science Requirement 3 credit hour(s)** (Cannot be a Psychology course)

Term 4

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 3-4 credit hour(s)**

- **Fine Arts Requirement 3 credit hour(s)**

- Humanities Requirement **3 credit hour(s)**

or

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

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

Associate of Arts in Pre-Health Sciences, Pre-Medical Laboratory Technician Concentration 61-68 credit hour(s)

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Meet with a CNM Academic Advisor to create an individualized academic plan
- Visit the CNM Medical Laboratory Technician website for more information about the program

Pre-Health Science (AA), Pre-Nursing Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210

- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

PSY 2220 - Developmental Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes physical, social, emotional and intellectual development across the life span, including professional research and applications.

Term 3

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

- **Humanities Requirement 3 credit hour(s)**

NUTR 2110 - Human Nutrition

3 credit hour(s) (Pre- or corequisite: CHEM 1410 or CHEM 1710 or BIO 1410 or appropriate placement scores)

Introduces nutrition as it affects normal body function and total health. Designed for health majors who will use this information in various professions.

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

Term 4

- **Fine Arts Requirement 3 credit hour(s)**

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

BIO 2710 - Pathophysiology I

3 credit hour(s)

(Prerequisites: BIO 2110 + BIO 2192 + BIO 2210 + BIO 2310) (Recommended course: BIO 2292 + BIO 2392)*

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 and BIO 2392 prior to taking BIO 2710 as the Human Anatomy and Physiology Lab experience is useful in mastering the concepts studied in BIO 2710.

- **Elective 3-4 credit hour(s)** (Modern Language Recommeded)*

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Nursing 60-61 credit hour(s)

* A Modern Language is required for the Bachelor of Science degree at the University of New Mexico.

Pre-Health Science (AA), Pre-Paramedic Concentration

School of Math, Science & Engineering (MSE)

Description

The Pre-Health Sciences program is an Associate of Arts Degree 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. Read More.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

* HLTH 1001 - Clinical Preparation is a required co-requisite for EMS 1053 or EMS 1412

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

EMS 1053 - EMT Basic Theory

6 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores) (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.

and

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

and

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

or

EMS 1412 - Advanced EMT (EMT-I) Theory

6 credit hour(s)

(Prerequisite: EMS 1053 + EMS 1093 + EMS 1190* + RDG 0950 or appropriate placement scores + department approval) (Pre- or corequisite: 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)

and

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

and

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **Mathematics Requirement 3-4 credit hour(s)** (MATH 1210 or MATH 1310 fulfill the Emergency Medical Services Paramedic program requirement and may be used to fulfill elective credit in this AA degree)

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 3

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 3-4 credit hour(s)**

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Fine Arts Requirement 3 credit hour(s)**

Term 4

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

- **Elective 3-4 credit hour(s)**

- **Humanities Requirement 3 credit hour(s)**

- **Social/Behavioral Science Requirement 3 credit hour(s)** (Cannot be a Psychology Course)

Associate of Arts in Pre-Health Sciences, Pre-Paramedic Concentration 61-65 credit hour(s)

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Visit the CNM Paramedic Program website for more information about the program

Pre-Health Science (AA), Pre-Pharmacy Concentration

School of Math, Science & Engineering (MSE)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

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

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Humanities Requirement 3 credit hour(s)**
- **Program Approved Requirement 3-4 credit hour(s)**

Term 3

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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
- **Social/Behavioral Science Requirement 3 credit hour(s)** (cannot be a Psychology Course)
- **Program Approved Requirement 6-8 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**

Term 4

- **Fine Arts Requirement 3 credit hour(s)**

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Program Approved Requirement 6-8 credit hour(s)**

Associate of Arts in Pre-Health Sciences, Concentration in Pre-Pharmacy 61-67 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.

Program Approved Requirement

Choose 15-20 credit hours from the following list:

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 course: 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.

and

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

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

BIO 1610/1692 - Genetics w/Laboratory

4 credit hour(s) (Prerequisite: BIO 1510/1592) (Pre- or corequisite: CHEM 1810 + CHEM 1892)

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
- 45 lab hours

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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

ECON 2201 - Microeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

or

PSY 2200 - Statistical Principles

3 credit hour(s)

(Prerequisite: MATH 1210 or MATH 1310 + PSY 1105 + any two 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.
Note(s)

- Course offered Fall and Spring

MATH 1460 - Elements Of Calculus I

3 credit hour(s) (Prerequisite: MATH 1315 or MATH 1415 or appropriate placement scores)

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.

or

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

and

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

or

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

and

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

PHYS 1610 - Physics II

4 credit hour(s)

(Prerequisites: RDG 0950 + PHYS 1510) (Recommended course: 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.

and

PHYS 1692 - 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

or

PHYS 1810 - Physics for Scientists and Engineers II

4 credit hour(s)

(Prerequisite: PHYS 1710) (Recommended course: PHYS 1892)* (Pre- or corequisite: MATH 1715)

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.

and

PHYS 1892 - Physics for Scientists and Engineers II Laboratory

1 credit hour(s) (Corequisite: PHYS 1810)

Focuses on experiments in electricity, magnetism, optics.
Note(s)

- 45 lab hours

Students may only select 0-3 credit hours from the following list:

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

COMM 2225 - Small-Group Communication Studies

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Examines group types, characteristics, dynamics, conflicts, norms, roles, leadership, problem solving and decision making in small group processes.

Students may only select 0-6 credit hours(s) from the following list:

ENG 2219 - Technical Writing

3 credit hour(s) (Prerequisite: ENG 1102)

Emphasizes writing in industry, research laboratories, business and other professional settings.

MATH 1320 - A Survey of Mathematics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Focuses on the creative nature of mathematics through problems, readings, discussions of topics such as set theory, logic, number theory, basic geometry and probability.

MATH 1465 - Elements Of Calculus II

3 credit hour(s) (Prerequisite: MATH 1460)

Continues course of study begun in MATH 1460 - Elements Of Calculus I. Presents intensive study of substitution, integration by parts, 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.

PHIL 1110 - Introduction to Philosophical Thought

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

PHIL 1156 - Logic and Critical Thinking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 2245 - Business Ethics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Provides a forum for discussion of the ethical and social problems affecting the business community. Examines differing views of economic justice.

or

PHIL 2247 - Biomedical Ethics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Provides a forum for discussion of the ethical and social problems affecting the medical professional and the practice of medicine.

Students may only select 0-3 credit hours from the following area:

- **Humanities, Social/Behavioral** or **Fine Arts** listed in the State of New Mexico General Education Core Requirements for (AA) and (AS) Degrees. Must be a different course than those taken above in the sequence of courses; students cannot double-count required courses as their Non-Professional Elective.

Pre-Health Science (AA), Pre-Radiologic Technology Concentration

School of Math, Science & Engineering (MSE)

Description

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. Read More.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

or

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

- Humanities Requirement **3 credit hour(s)**

or

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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Elective 3-4 credit hour(s)** (PHIL 2247 Recommended)

- **Mathematics Requirement 3-4 credit hour(s)** (MATH 1210 or MATH 1310 satisfy the Radiologic Technology program requirement and may be used to fulfill elective credit for this AA degree)

Term 3

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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
- **Humanities Requirement 3 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Elective 3-4 credit hour(s)**
- **Elective 3-4 credit hour(s)**

Term 4

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Social/Behavioral Science Requirement 3 credit hour(s)** (Cannot be a Psychology Course if PSY 1105 taken in Term1; cannot be a Sociology course if SOC 1101 taken in Term 1)
- **Elective 3-4 credit hour(s)**
- **Elective 3-4 credit hour(s)**

Associate of Arts in Pre-Health Sciences, Pre-Radiologic Technology Concentration 61-67 credit hour(s)

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Meet with a CNM Academic Advisor to create an individualized academic plan
- Visit the CNM Radiologic Technology website for more information about the program

Pre-Health Science (AA), Pre-Respiratory Therapy Concentration

School of Math, Science & Engineering (MSE)

Description

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. Read More.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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.

and

BIO 2192 - Microbiology Laboratory

1 credit hour(s) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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

- **Mathematics Requirement 3-4 credit hour(s)** (MATH 1210 or MATH 1310 satisfy the Respiratory Therapy program requirement and may be used to fulfill elective credit for this AA degree)

or

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

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Elective 3-4 credit hour(s)** (PHIL 2247 Recommended)

- **Humanities Requirement 3 credit hour(s)**

Term 3

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

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

Term 4

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 3-4 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)** (Cannot be a Psychology Course)

Associate of Arts in Pre-Health Sciences, Pre-Respiratory Therapy Concentration 62-67 credit hour(s)

Note

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Meet with a CNM Academic Advisor to create an individualized academic plan.
- Visit the CNM Respiratory Therapy website for more information about the program.

Pre-Health Science (AA), Pre-Veterinary Technology Concentration

School of Math, Science & Engineering (MSE)

Description

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. Read More.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**

- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**

- **Mathematics Requirement 3-4 credit hour(s)** (MATH 1210 or MATH 1310 fulfill the Veterinary Technology Technician program requirement and may be used to fulfill elective credit for this AA degree)

Term 2

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Elective 3-4 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

Term 3

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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
- **Elective 3-4 credit hour(s)**
- **Elective 3-4 credit hour(s)**
- **Elective 3-4 credit hour(s)**
- **Fine Arts Requirement 3 credit hour(s)**

Term 4

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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
- **Elective 3-4 credit hour(s)**
- **Humanities Requirement 3 credit hour(s)**
- **Social/Behavioral Science Requirement 3 credit hour(s)** (Cannot be a Psychology Course)

Associate of Arts in Pre-Health Sciences, Pre-Veterinary Technology Concentration 61-67 credit hour(s)

This information is meant to serve as a general guide for students intending to major in health-related fields. 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. There may be program-specific requirements that must be met, and many programs require a competitive admissions process.

- Meet with a CNM Academic Advisor to create an individualized academic plan
- Visit the CNM Veterinary Technology website for more information about the program

Pre-Law

Pre-Law, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Career and Educational Opportunities

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210

or

- MATH 1310
- Reading 2 Proficiency

Term 1

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)** (HIST 1162 Recommended)*

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1330 - Introduction to Probability and Statistics

3 credit hour(s) (Prerequisite: MATH 1210 or MATH 1310 or appropriate placement scores)

Introduces basic concepts in probability and statistics-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.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

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

PHIL 1156 - Logic and Critical Thinking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

PSCI 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Fine Arts Requirement 3 credit hour(s)**
- **Laboratory Science Requirement 4 credit hour(s)**
- Approved Program Elective 6 credit hour(s)

Term 4

- **Modern Language Elective 4 credit hour(s)**
- **Approved Program Elective 9 credit hour(s)**

Associate of Arts in Pre-Law 60 credit hour(s)

* Recommended for students intending to transfer to the University of New Mexico.

Approved Program Electives

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.

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 will be 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.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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 2270 - Introduction to Public Policy

3 credit hour(s) (Prerequisite: RDG 0950)(Recommended course: 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.

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.

or

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 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

or

SOC 2213 - Deviant Behavior

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

Psychology

Psychology, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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. Interested students can learn about career opportunities and pathways in psychology and related fields from the American Psychological Association.

Career and Educational Opportunities

The two-year program listed below 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 at 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 psychology department and/or advisor at (505) 277-4121. 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 the CNM Academic Advising Center.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Minor in Psychology at UNM

Psychology minors at UNM complete PSY 1105 Introduction to Psychology and any 5 other psychology courses for a total of 18 credit hours, and 2 of those courses (6 credit hours) must be taken at UNM. Therefore, up to 4 total psychology courses (12 credit hours), selected from any psychology courses offered at CNM, can be applied toward graduation requirements for a psychology minor at UNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Modern Language Elective 4 credit hour(s)**
- **Humanities Requirement 3 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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Elective 3 credit hour(s) (MATH Recommended)**
- **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)

(Prerequisite: MATH 1210 or MATH 1310 + PSY 1105 + any two 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.
Note(s)

- Course offered Fall and Spring

Associate of Arts in Psychology 60-61 credit hour(s)

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.

Psychology Approved Electives

Choose from the following list of courses

PSY 2220 - Developmental Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes physical, social, emotional and intellectual development across the life span, including professional research and applications.

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.
Note(s)

- Fall, spring only.

PSY 2260 - Psychology of Learning and Memory

3 credit hour(s) (Prerequisite: PSY 1105)

Introduces study of learning in the laboratory, ranging from simple processes such as conditioning to complex ones such as transfer, memory and concept formulation.
Note(s)

- Fall only

PSY 2265 - Cognitive Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Presents theories and research on various mental processes: memory (encoding, storage and retrieval), attention, comprehension, categorization, reasoning, problem solving, solving, language and motor skills.
Note(s)

- Spring only

PSY 2271 - Social Psychology

3 credit hour(s) (Prerequisite: PSY 1105)

Emphasizes study of social interaction: communication, perception of the self and others, attitudes and leadership.
Note(s)

- Typically offered Fall and Spring term only.

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.

Radiologic Technology

Radiologic Technology, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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. Radiologic Technology is a 5-term Associate of Applied science degree program. 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.

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

Hospitals are the primary employer of radiologic technologists although national indicators predict that a greater number of new jobs will be in physician offices and clinics. A career in radiologic technology offers vast opportunities for advancement in specialized imaging techniques.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency
- Biology Proficiency

Required Courses

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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 course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1315 Recommended)*

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 1 (Typically offered in Fall)

This program's first term courses are typically offered in the Fall term. This may delay a student's program start date. Please check with an academic advisor for more information.

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA,

and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

RADT 1001 - Radiologic Technology Introduction

2 credit hour(s) (Prerequisite: BIO 2210 + BIO 2292 + BIO 2310 + BIO 2392 + ENG 1101 + MATH 1210 or MATH 1310 + PSY 1105 + department approval) (Corequisite: RADT 1005 + RADT 1070 + RADT 1093 + RADT 1507)

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.

RADT 1005 - Fundamentals of Radiography

3 credit hour(s) (Corequisite: RADT 1001 + RADT 1070 + RADT 1093 + RADT 1507)

Presents the production of the radiographic image on film. The course will include exposure factors, the interaction of x-rays and matter, basic image receptor principles, image quality and basic physics of x-ray equipment. Consideration will be given to how processing and exposure variables affect the final radiograph. Film characteristics and adjuncts (screens, grids) will be explored. Technique formulation and exposure compensations will be studied and practiced.

RADT 1070 - Radiographic Positioning I

3 credit hour(s) (Corequisite: RADT 1001 + RADT 1005 + RADT 1093 + RADT 1507)

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, film critique, basic equipment and portable radiography.
Note(s)

- Previously RADT 130L
- 30 theory hours
- 45 lab hours

RADT 1093 - Clinical Lab I

1 credit hour(s) (Corequisite: RADT 1001 + RADT 1005 + RADT 1070 + RADT 1570)

Provides supervised clinical lab experiences and in area hospitals and health care facilities related to first term courses. May include clinical observation.
Note(s)

- 45 lab hours

RADT 1507 - Patient Care and Management Radiography

2 credit hour(s) (Corequisite: RADT 1001 + RADT 1005 + RADT 1070 + RADT 1093)

Covers issues related to patient care including legal and professional responsibilities, patient rights, patient confidentiality, security, patient education, safety and comfort, infection control and prevention, patient monitoring, contrast media, pharmacology and parental drug administration.
Note(s)

- 15 theory hours
- 45 lab hours

Term 2

RADT 1520 - Radiation Biology and Protection

2 credit hour(s) (Prerequisite: HLTH 1001 + RADT 1001 + RADT 1005 + RADT 1070 + RADT 1093 + RADT 1507) (Corequisites: RADT 1570 + RADT 1593 + RADT 1690)

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

3 credit hour(s) (Corequisite: RADT 1520 + RADT 1593 + RADT 1690)

Continues course of study begun in RADT 1070 - Radiographic Positioning I including procedures, projections, anatomy, oseology and arthrology of the vertebral column, skull and facial bones, sinuses and mastoids. Other topics will include foreign body localization and film 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)

- 30 theory hours
- 45 lab hours

RADT 1593 - Clinical Lab II

1 credit hour(s) (Corequisite: RADT 1520 + RADT 1570 + RADT 1690)

Provides supervised clinical lab experiences and in area hospitals and health care facilities related to first term courses. May include clinical observation.
Note(s)

- 45 lab hours

RADT 1690 - Clinical Experience I

6 credit hour(s) (Corequisite: RADT 1520 + RADT 1570 + RADT 1593)

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)

- 270 clinical hours

Term 3

RADT 2001 - Radiographic Quality Assurance Introduction

1 credit hour(s) (Prerequisite: RADT 1520 + RADT 1570 + RADT 1593 + RADT 1690) (Corequisite: RADT 2010 + RADT 2090 + RADT 2092 + RADT 2093)

This course provides the student with an introduction to the evaluation of radiographic systems to assure consistency in the production of quality images. Components or radiography equipment and test and procedures to evaluate these components are discussed.

RADT 2010 - Radiographic Imaging I

3 credit hour(s) (Corequisite: RADT 2001 + RADT 2090 + RADT 2092 + RADT 2093)

Covers film and electronic imaging with related accessories. Employs radiographic film critique to emphasize the methods of diagnostic quality control.
Note(s)

- Previously RADT 202L
- 30 theory hours
- 45 lab hours

RADT 2090 - Clinical Experience II

6 credit hour(s)

(Corequisite: RADT 2001 + RADT 2010 + RADT 2092 + RADT 2093)

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, film processing and film critiques. Assistance in a variety of patient care needs, safety issues, PACS and dye exposure.
Note(s)

- 270 clinical hours
- Typically offered Fall term only.

RADT 2092 - Radiographic Film Critique Lab

1 credit hour(s) (Corequisite: RADT 2001 + RADT 2010 + RADT 2090 + RADT 2093)

Provides a clinical lab experience in clinical film critique to integrate clinical practice and classroom

education. Evaluates technical error on radiographs and reviews strategies for avoiding future errors.
Note(s)

- 45 lab hours

RADT 2093 - Clinical Lab III

1 credit hour(s) (Corequisite: RADT 2001 + RADT 2010 + RADT 2090 + RADT 2092)

Provides supervised clinical lab experiences and in area hospitals and health care facilities related to first term courses. May include clinical observation.
Note(s)

- 45 lab hours

Term 4

RADT 2404 - Radiographic Imaging II

1 credit hour(s) (Prerequisite: RADT 2001 + RADT 2010 + RADT 2090 + RADT 2092 + RADT 2093) (Corequisite: RADT 2408 + RADT 2410 + RADT 2490)

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

2 credit hour(s) (Corequisite: RADT 2404 + RADT 2410 + 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 2404 + RADT 2408 + RADT 2490)

This course is a comprehensive review of the physical principles of diagnostic radiography.

RADT 2490 - Clinical Experience III

6 credit hour(s) (Corequisite: RADT 2404 + RADT 2408 + RADT 2410)

Continues course of study begun in RADT 2090 - Clinical Experience II with indirect supervision, a continued development of competence and practice in basic positioning learned in Positioning I and II and Radiographic Imaging I and II. Independent/intermediate level of performance in selected procedures, film processing and film critiques. Assists in a variety of patient care activities.
Note(s)

- 270 clinical hours

Term 5

RADT 2810 - Radiologic Technology Seminar

2 credit hour(s) (Prerequisite: RADT 2404 + RADT 2408 + RADT 2410 + 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.

RADT 2890 - Clinical Experience IV

8 credit hour(s)

(Corequisite: RADT 2810)

Continues course of study begun in RADT 2490 - Clinical Experience III with instruction and practice in a clinical facility under indirect/close supervision. Student will continue to develop competencies learned in Positioning I and II and Imaging I and II. Observation, involvement and assistance in special procedures and special imaging modalities. Review of radiographs, preparation for employment as radiologic technologists.
Note(s)

- 360 clinical hours

Associate of Applied Science in Radiologic Technology 78-79 credit hour(s)

*Recommended for transfer into the UNM Bachelor of Science in Radiologic Science degree.

Respiratory Therapy

Respiratory Therapy, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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

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

Graduates of the CNM Respiratory Therapy Program are employed by acute care hospitals, transitional care hospitals, home health care agencies, skilled nursing homes and cardiopulmonary rehabilitation centers within New Mexico and throughout the nation. The CNM program has a high placement rate for its graduates. Graduates can attain specialty credentials through employment training in specialized areas of cardiopulmonary care. They are also encouraged to continue education toward a bachelor of science degree in respiratory therapy, general science, education or management to pursue leadership positions in the field.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

The CNM Respiratory Therapy Program is required to publish CoARC Programmatic Outcomes Data. The intent of the reporting is that comparable information be readily available to the public.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **High School Diploma or Equivalent**
- Coordinated Entry Program
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency
- Biology Proficiency
- HLTH 1001

Required Courses

BIO 2110 - Microbiology

3 credit hour(s)

(Prerequisite: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement scores)(Recommended course: 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) (Prerequisites: CHEM 1492 or CHEM 1792 or appropriate placement scores) (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)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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) (Prerequisites: 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 course: 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) (Prerequisites: 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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.
- **AAS Mathematics Requirement 3-4 credit hour(s)** (MATH 1330 Recommended)

PHIL 2247 - Biomedical Ethics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Provides a forum for discussion of the ethical and social problems affecting the medical professional and the practice of medicine.

Term 1 (Fall Only)

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 advisor for more information.

RT 1020 - Physics of Respiratory Therapy

3 credit hour(s) (Corequisite: RT 1070 + RT 1090)

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 1070 - Respiratory Therapy I

4 credit hour(s) (Prerequisites: BIO 2110 + BIO 2192 + BIO 2210 + BIO 2292 + BIO 2310 + BIO 2392 + ENG 1101 + HLTH 1001 + IT 1010 + MATH 1210 or higher + PHIL 2247 + department approval) (Corequisites: RT 1020 + RT 1090)

Introduces respiratory therapy as a health sciences profession. Includes cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy. Students practice respiratory care procedures using state of the art equipment in the learning laboratory under simulated patient situations.
Note(s)

- 45 theory hours
- 45 lab hours
- Typically offered Fall term only.

RT 1090 - Clinical Experiences I

4 credit hour(s) (Corequisites: RT 1020 + RT 1070)

Provides supervised clinical experiences in area hospitals and health care facilities related to concepts presented in RT 1070 - Respiratory Therapy I.
Note(s)

- 180 clinical hours

Term 2

RT 1030 - Pharmacology of Respiratory Therapy

3 credit hour(s) (Corequisites: RT 1540 + RT 1570 + RT 1090)

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 1540 - Cardiopulmonary Pathophysiology I

1 credit hour(s) (Corequisites: RT 1030 + RT 1570 + RT 1590)

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: 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 1570 - Respiratory Therapy Principles and Practices II

4 credit hour(s) (Prerequisite: RT 1020 + RT 1070 + RT 1090) (Corequisite: RT 1030 + RT 1540 + RT 1590)

Emphasizes airway management, pulmonary function testing, arterial puncture and blood gas analysis. Includes administering and home care therapy. Students practice respiratory care procedures using state of the art equipment in the learning laboratory under simulated patient situations.

Note(s)

- 45 theory hours
- 45 lab hours
- Typically offered Spring term only.

RT 1590 - Clinical Experiences II

4 credit hour(s) (Corequisites: RT 1030 + RT 1570 + RT 1540)

Provides supervised clinical experiences in area hospitals and health care facilities related to second term courses.
Note(s)

- 180 clinical hours

Term 3

RT 2070 - Advanced Respiratory Therapy I

4 credit hour(s)

(Prerequisites: RT 1030 + RT 1570 + RT 1540 + RT 1590) (Corequisites: RT 2040 + RT 2090)

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.
Note(s)

- 45 theory hours
- 45 lab hours

RT 2040 - Cardiopulmonary Pathophysiology II

1 credit hour(s) (Corequisites: RT 2070 + RT 2090)

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: adult ventilator monitoring assessment, sleep apnea, complications of mechanical ventilation and non-invasive ventilation.

RT 2090 - Advanced Clinical Experiences I

4 credit hour(s) (Corequisite: RT 2070 +RT 2040)

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)

- 180 clinical hours

Term 4

RT 2470 - Advanced Respiratory Therapy II

4 credit hour(s) (Prerequisites: RT 2070 + RT 2090 + RT 2040) (Corequisite: BIO 2310/BIO 2392 + RT 2440 + RT 2490)

Presents cardiopulmonary assessment and diagnosis in advanced critical care including correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiopulmonary function. Presents clinical assessment techniques in advanced critical care, cardiopulmonary anatomy and physiology, hemodynamic monitoring and advanced cardiac life support using state of the art equipment and computer simulation in the learning laboratory.
Note(s)

- 45 theory hours
- 45 lab hours

RT 2440 - Cardiopulmonary Pathophysiology III

1 credit hour(s) Corequisite: RT 2470 + RT 2490)

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.

RT 2490 - Advanced Clinical Experiences II

4 credit hour(s) (Corequisite: RT 2440 + RT 2470)

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)

- 180 clinical hours

Term 5

RT 2870 - Advanced Respiratory Therapy III

4 credit hour(s) (Prerequisites: RT 2470 + RT 2440 + RT 2490) (Corequisites: RT 2840 + RT 2890)

Presents concepts of critical care medicine for children and infants including theory of life support systems. 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.
Note(s)

- 45 theory hours
- 45 lab hours

RT 2840 - Cardiopulmonary Pathophysiology IV

1 credit hour(s) (Corequisite: RT 2870 + RT 2890)

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: IRDS/BPD, cystic fibrosis, CHF,CO poisoning, neuromuscular disease, trauma & burn, COPD, respiratory failure, ARDS.

RT 2890 - Advanced Clinical Experiences III

4 credit hour(s) (Corequisite: RT 2870 + RT 2840)

Introduces skills for respiratory care in pediatric and neonatal critical care environments including initiation, monitoring and maintaining life support systems. Introduces clinical experiences with conducting pulmonary rehabilitation. Includes independent study project in an area of respiratory care and supervised mentorship experiences.
Note(s)

- 180 clinical hours

Associate of Applied Science in Respiratory Therapy 74-75 credit hour(s)

Sociology

Sociology, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

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.

Career and Educational Opportunities

The two-year program listed below is designed to meet the requirements for an Associate of Arts in Sociology from CNM and prepare a student to obtain a Bachelor of Arts in Sociology at University of New Mexico (UNM). Currently, UNM offers two concentrations for the sociology degree: pre-law and human services and social policy. These concentrations have slightly different requirements; courses accepted for each concentration are listed. A concentration is not required to earn a Bachelor of Arts in Sociology at UNM.

Students interested in transferring to UNM should consult the UNM Sociology Department and/or advisor at (505) 277-2501. However, students from CNM seeking a baccalaureate degree may also transfer to other institutions. Students should always refer to the catalog of their intended transfer institution for specific admission and curricular requirements. Students may also consult a CNM faculty advisor and/or the CNM Academic Advising Center for assistance.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1210 **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

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

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

Term 2

- **Program Approved Elective 3 credit hour(s)**

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

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

Term 3

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

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Fine Arts Requirement 3 credit hour(s)**

- **Laboratory Science Requirement 4 credit hour(s)**

Term 4

- **Elective 6 credit hour(s)**

- **Program Approved Elective 3 credit hour(s)**

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

1 credit hour(s) (Prerequisite: SOC 1101) (Pre- or corequisite: SOC 2280)

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.

Associate of Arts in Sociology 61-62 credit hour(s)

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.

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 2096-2996 - Special Topics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Presents various topics.
Note(s)
(all courses ending in 96 are special topics) See *Schedule of Classes*.

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 2250 - Social Problems Facing Children

3 credit hour(s) 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.

UNM Pre-Law Transfer Track Approved Electives

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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

SOC 2213 - Deviant Behavior

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines theories of deviance and behaviors such as rape, murder, theft, drug use, alcoholism, prostitution, mental disorders and suicide.

UNM Human Services & Social Policy Transfer Track Approved Electives

SOC 2211 - Social Problems

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

SOC 2216 - Ethnic and Minority Groups

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: SOC 1101)

Examines relationships among majority and minority and ethnic groups: prejudice, discrimination, stereotyping, pluralism and social mobility.

SOC 2221 - Global Issues

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)(Recommended Prequisite: 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.

SOC 2225 - Sociology of Family

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 or appropriate placement scores. Recommended prerequisite:

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.

Sterile Processing Technician

Sterile Processing Technician, Certificate of Achievement

School of Health, Wellness & Public Safety (HWPS)

Description

Sterile Processing Technician is a one term program that presents the knowledge and skills necessary to work in a hospital's Cental 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.

Career Opportunities

Employment opportunities include surgery centers, dialysis facilities, and central processing units and cental supply departments in hospitals.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 2 Proficiency

Term 1

SPT 1010 - Basics of Sterile Processing

2 credit hour(s) (Prerequisite: ENG 0750 or ESOL 0751 + MATH 0750 + RDG 0950 or appropriate placement scores) (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

Certificate of Achievement in Sterile Processing Technician 4 credit hour(s)

Surgical Technology

Surgical Technology, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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.

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 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

Surgical Technologists perform may roles within and outside the operating room or surgical setting, but the primary role is to prepare and protect the sterile field, pass instruments, and assist the surgeon in an operative procedure. There is a demand for Surgical Technologists in Albuquerque and throughout the state of New Mexico.

- Gainful Employment information is available from Job Connection Services.

- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- High School Diploma or Equivalent
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency
- Biology Proficiency

Required Courses (2 Terms)

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

BIO 2210 - Human Anatomy and Physiology I

3 credit hour(s)

(Prerequisites: [BIO 1410 + BIO 1492] or [BIO 1510/1592 + BIO 1610/1692] + [CHEM 1410 or CHEM 1710] or appropriate placement score)(Recommended course: 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.

and

BIO 2292 - Human Anatomy and Physiology I Lab

1 credit hour(s) (Prerequisites: 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

and

BIO 2310 - Human Anatomy and Physiology II

3 credit hour(s)

(Prerequisite: BIO 2210)(Recommended course: 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.

and

BIO 2392 - Human Anatomy and Physiology II Lab

1 credit hour(s) (Prerequisites: 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

BPCS 1010 - Basic Patient Care Skills

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0950 or appropriate placement scores)

Introduces students to the principles of providing basic patient care including communication, patient safety and medical asepsis. Laboratory hours provide instruction and supervised practice of personal care skills, body mechanics, turning and transferring patients, vital signs, measuring and recording intake and output, restorative care. Demonstration of competency in all skills will be required at completion of course.
Note(s)

- 15 theory hours
- 45 lab hours

or

NA 1015 - Nursing Assistant

6 credit hour(s)

(Prerequisite: RDG 0950 + ENG 0750 or ESOL 0751 + MATH 0750 or appropriate placement scores) (Pre- or corequisite: HLTH 1001)*

Students learn basic anatomy and physiology, communication and clinical math skills. Includes basic patient care skills necessary to work in a nursing home, private home or hospital setting. Personal care, restorative

care skills, vital signs and lifting are some of the skills taught in a lab setting. This course also provides the opportunity to practice supervised basic patient care skills in a long-term care setting.

* HLTH 1001 must be completed prior to beginning the clinical portion of the course. The clinical portion is designated by HOSP in the CNM Schedule of Classes
Note(s)

- At the completion of this course, students are eligible to take the state certification exam (CNA) and will also receive a Nursing Assistant, Certificate of Achievement
- 60 theory hours
- 45 lab hours
- 45 clinical hours

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIT 1020 - Medical Terminology and Anatomy

3 credit hour(s) (Prerequisite: RDG 0750 + ENG 0950 or appropriate placement scores)

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.

ST 1001 - Introduction to Surgical Technology

2 credit hour(s) (Prequisite: ENG 1101 + MATH 0930)

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.

Term 3 (Typically Offered in Summer and Fall)

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 advisor for more information.

HLTH 1001 - Clinical Preparation

1 credit hour(s) (Prerequisite: RDG 0750 or appropriate placement scores)

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 CPR, Blood Borne Pathogen, HIPAA, and First Aid certification. Students are encouraged to take this course prior to their course of study, however, be advised that CPR and First Aid certifications must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ST 1010 - Beginning Surgical Technology I

3 credit hour(s)

(Prerequisites: ENG 1101 + MATH 1210 or higher + COMM 2221 + BIO 2210 + BIO 2292 + BIO 2310 + BIO 2392 + HIT 1020 + ST 1001 + BPCS 1010 or NA 1015 + department approval) (Corequisites: 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)

- Typically offered Summer and Fall term only.

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

Term 4

ST 1510 - Beginning Surgical Technology II

3 credit hour(s) (Prerequisites: 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. (360 clinical hours per term).

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

Term 5

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) (Corequisites: 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

Associate of Applied Science in Surgical Technology, 63-68 credit hour(s)

Surveying Engineering

Surveying Engineering, Associate of Science

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

The two-year Surveying Engineering program at CNM is designed to meet the requirements for an Associate of Science degree and prepare students to pursue of Bachelor of Science in Surveying Engineering at New Mexico State University or another institution.

Students should understand that the requirements for licensure as a Surveyor vary from state to state. Licensure in New Mexico requires a 4-year degree as well as other requirements.

Students should always refer to the catalog of their intended transfer institution for admission, program, course and graduation requirements. Students also should consult a faculty advisor and/or the CNM Academic Advising Center.

Also note that the math requirements in the CNM degree program are the absolute minimum. Students who are able should consider additional math courses.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1315
- Reading 2 Proficiency

Term 1

MATH 1410 - Trigonometry

3 credit hour(s) (Prerequisite: MATH 1315 or MATH 1415 or appropriate placement scores)

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.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

SUR 1001 - Introduction to Surveying Engineering

1 credit hour(s) Introduces the field of surveying and explores potential career paths.
Note(s)

- 15 lab hours

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 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.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

Term 2

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

CM 2205 - Construction Surveying

3 credit hour(s) (Prerequisite: MATH 1310 or GIS 1001 or department approval)

Introduces the basic techniques and equipment used in surveying including tape, level and theodolite; leveling, distance and angle measurement; traversing; and note-keeping.
Note(s)

- 15 theory hours
- 90 lab hours

- **Humanities Requirement 3 credit hours**

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

MATH 1415 - Advanced Algebra

4 credit hour(s) (Prerequisite: MATH 1315 or appropriate placement scores)

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.

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

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities Requirement 3 credit hours**

GIS 1005 - CAD for 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

CIS 1275 - C++ Programming I

3 credit hour(s) (Prerequisite: MATH 1310)

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)

- Students who have successfully completed similar introductory C++ programming courses, such as those at APS/CEC, may have this course waived and proceed to CIS 2275
- 30 theory hours
- 45 lab hours

or

CIS 1250 - Python Programming I

3 credit hour(s) (Pre- or corequisite: IT 1010 or department approval)

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)

- 30 theory hours
- 45 lab hours

MATH 1710 - Calculus I

4 credit hour(s) (Prerequisites: MATH 1410 + MATH 1415 or appropriate placement scores)

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.

Term 4

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

Surveys theories and problems of economic policy, including the contrast of the Classical and Keynesian models, money and banking, inflation, unemployment and economic growth.

- **Laboratory Science Requirement 3 credit hour(s)**

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

SUR 1015 - Public Lands Survey System Boundaries

3 credit hour(s) (Prerequisites: 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 1017 - Traffic Control and NSPS Survey Technician Certification Prep

2 credit hour(s) (Pre- or corequisite: SUR 1015)

Traffic control and safety procedures for surveying and field operations. As well as a review of the common body of knowledge" that is covered in the Level 1 NSPS Survey Technician certification."

Associate of Science Degree in Surveying Engineering 63 credit hour(s)

Teacher Education

Teacher Education (AA), Bilingual Elementary Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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

Special Requirements

Students may be required to undergo a TB test and 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. For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Teacher licensure regulations determine eligible vocational/technical areas for the Career and Technical concentration. Students seeking this degree and/or intending to transfer to ENMU's online program in

Professional Technical Education must be advised by the program director.

Native Spanish speakers or speakers of Native American languages should contact program director for options to SPAN requirements for the Bilingual Elementary Concentration.

Career and Educational 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 bachelors degrees in education. The Career and Technical Education concentration is specifically articulated for transfer to Eastern New Mexico University's online Bachelors degree in Professional Technical 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 national and state trend in Career and Technical education in high schools has also increased the demand for skilled Career and Technical educators. The starting salary for teachers in New Mexico public schools is $30,000. Within 7 years of teaching, teachers can move to a salary of $50,000.

The Education Department also offers courses for students who have already earned a Bachelors degree and want to transition to teaching through the 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 for the recommended course sequence for each Alternative Teacher Licensure area.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

ANTH 1110 - Language Culture and the Human Animal

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces concepts and practices of linguistics and anthropology. Study of the systematic nature of language: phonology, morphology, syntax, semantics and pragmatics.

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

Term 2

EDUC 1102 - Introduction to Teaching: Theory and Lab

4 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950)

Introduces students to the professional world of teaching. Provides knowledge about various issues and challenges that are important in teachers' everyday lives. The lab experience will afford students the opportunity to observe and learn teaching practices in real classroom environments.
Note(s)

- 45 lab hours

EDUC 2204 - Child Development

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 + appropriate placement scores)

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.

or

EDUC 2207 - Educational Psychology

3 credit hour(s) (Prerequisites: ENG 0950 or appropriate placement scores.)

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about learning and instruction in classrooms and how theories of learning

are connected to classroom situations.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

MATH 1110 - Math for Teachers I

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0930 + RDG 0750 or appropriate placement scores)

Investigates the representation of rational numbers and rational number of arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Explanation and problem solving is emphasized throughout.

Term 3

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

or

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

or

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

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; connections to coordinate geometry. Problem solving is emphasized throughout.

or

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

- **Laboratory Science Requirement 4 credit hour(s)**

Term 4

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

- **Laboratory Science Requirement 4 credit hour(s)**

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

MUS 1140 - Modern Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

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

SPAN 1101 - Beginning Spanish

4 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces listening, speaking and grammatical skills for students with no previous exposure to Spanish. Includes an online workbook and lab manual.

Term 5

HIST 2260 - History of New Mexico

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys New Mexico's history from 1500 to the present: contributions of the interactions among Native Americans, Hispanics, Anglos and others.

- **Laboratory Science Requirement 4 credit hour(s)**

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

SPAN 1102 - Beginning Spanish II

4 credit hour(s) (Prerequisite: SPAN 1101 or appropriate placement scores)

Continues course of study begun in SPAN 1101: listening, speaking, grammatical skills. Includes an online workbook and lab manual.

Associate of Arts in Teacher Education, Bilingual Elementary Concentration 72 credit hour(s)

* Recommended for transfer to UNM

Program Approved Electives

Social/Behavioral Science Electives

Select From At Least Two Different Subject Areas

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Teacher Education (AA), Career and Technical Education Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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

Special Requirements

Students may be required to undergo a TB test and 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. For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Teacher licensure regulations determine eligible vocational/technical areas for the Career and Technical concentration. Students seeking this degree and/or intending to transfer to ENMU's online program in Professional Technical Education must be advised by the program director.

Native Spanish speakers or speakers of Native American languages should contact program director for options to SPAN requirements for the Bilingual Elementary Concentration.

Career and Educational 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 bachelors degrees in education. The Career and Technical Education concentration is specifically articulated for transfer to Eastern New Mexico University's online Bachelors degree in Professional Technical 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 national and state trend in Career and Technical education in high schools has also increased the demand for skilled Career and Technical educators. The starting salary for teachers in New Mexico public schools is $30,000. Within 7 years of teaching, teachers can move to a salary of $50,000.

The Education Department also offers courses for students who have already earned a Bachelors degree and want to transition to teaching through the 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 for the recommended course sequence for each Alternative Teacher Licensure area.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Required Courses

- **Biological/Physical Science Approved Electives 8 credit hour(s)**

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

EDUC 1102 - Introduction to Teaching: Theory and Lab

4 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950)

Introduces students to the professional world of teaching. Provides knowledge about various issues and challenges that are important in teachers' everyday lives. The lab experience will afford students the opportunity to observe and learn teaching practices in real classroom environments.
Note(s)

- 45 lab hours

EDUC 2207 - Educational Psychology

3 credit hour(s) (Prerequisites: ENG 0950 or appropriate placement scores.)

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about learning and instruction in classrooms and how theories of learning are connected to classroom situations.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

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 scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

or

ENG 1119 - Technical Communications

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Introduces study of written and verbal communication in business and industry.

- **Fine Arts Approved Elective 3 credit hour(s)**
- **Humanities Approved Elective 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

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

Program Approved Electives

Biological/Physical Science Electives

Select From Two Different Subject Areas

ASTR 1110 - Introduction to Astronomy II

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0940 or appropriate placement scores)

Explores life cycles of stars and stellar systems and the structure of the universe. Focuses on the births, lives and deaths of stars; the nature of the Milky Way galaxy and current concepts on cosmology and the large-scale structure of the universe.

ASTR 1192 - Astronomy Lab

1 credit hour(s) (Pre- or corequisite: ASTR 1110)

Investigates in optional laboratory setting the principles discussed in ASTR 1110.
Note(s)

- 45 lab hours

BIO 1010 - Biology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1092 - Biology for Non-Majors Lab

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

BIO 1110 - Environmental Science

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

BIO 1192 - Environmental Science Laboratory

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

Fine Arts Electives

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

ARTH 2250 - Modern Art

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

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) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents interrelationships of three Southwestern cultures emphasizing major forms of expression in pottery, textiles, jewelry, architecture, painting and photography.

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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: RDG 0950 or appropriate placement scores)

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.

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

Humanities Electives

- **Any HIST - History**

ENG 1150 - Study Of Literature

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Introduces the academic study of literature.

ENG 2206 - Popular Literature: Detective Novel

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores 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 scores; or department approval)

Surveys the science fiction genre, examining its history, its dominant themes and ideas and its most important creators.

ENG 2208 - Popular Literature: Espionage Fiction

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Surveys the development in world literature of espionage fiction, a subgenre of the thriller" whose popularity dates from the World War I era."

ENG 2209 - Popular Literature: Western

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Surveys the development of and conventions associated with western fiction, short stories and novels set in the American West and featuring themes common to the history, cultures and ethos of the West. The relationship between Western fiction and the Western film will be examined at length as well.

ENG 2210 - Film as Literature

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores; or department approval)

Presents study of film as visual literature, surveying major trends in the history of film.

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 scores; or department approval)

Introduces structure and nature of drama as a literary form: Greek, Renaissance, Enlightenment and Modern eras.

ENG 2252 - Introduction to Shakespeare

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores or department approval)

Introduces study of Shakespeare's work: sonnets, tragedies, comedies and histories.
Note(s)

- Fall only

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 2270 - Modern Literature

3 credit hour(s) (Prerequisite: ENG 1102)

Surveys American and European literature of the 20th century.
Note(s)

- Typically offered Spring 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.

HUM 1111 - Cultures and Civilizations of the Ancient World

3 credit hour(s) (Prerequisite: RDG 0950)

Introduces history, art, literature, religion and ideas of early world civilizations: Egypt, Mesopotamia, India, China Greece, Rome, Europe, Africa and pre-Columbian America.

HUM 1121 - Cultures and Civilization Renaissance to Present

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Continues course of study begun in HUM 1115: history, art, literature, music and ideas of world civilizations from the Renaissance to present.

PHIL 1102 - Ethics in Society

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended prerequisite: 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.

PHIL 1156 - Logic and Critical Thinking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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 2245 - Business Ethics

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Provides a forum for discussion of the ethical and social problems affecting the business community. Examines differing views of economic justice.

PHIL 2250 - Philosophy of Education

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Presents critical examination of classical and contemporary educational theories and philosophical movements in education. Emphasizes the relationship of philosophical theory and educational practice.

PHIL 2257 - Formal Logic

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces formal deductive logic: propositional logic, truth tables, argument forms and fallacies, predicate (symbolic) logic and method of proof.

RLGN 1107 - Living World Religions

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores.)

Introduces the academic study of religion, focusing on major world religions: religions on antiquity, Hinduism, Buddhism, Taoism, Judaism, Christianity, Islam and religion in primal cultures.

RLGN 2263 - Eastern Religions

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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).

Social/Behavioral Science Electives

Select From At Least Two Different Subject Areas

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

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

School of Communication, Humanities & Social Sciences (CHSS)

Description

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

Career and Educational Opportunities

Gainful Employment information is available from Job Connection Services. 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 bachelors degrees in education. The Career and Technical Education concentration is specifically articulated for transfer to Eastern New Mexico University's online Bachelors degree in Professional Technical 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 national and state trend in Career and Technical education in high schools has also increased the demand for skilled Career and Technical educators. The starting salary for teachers in New Mexico public schools is $30,000. Within 7 years of teaching, teachers can move to a salary of $50,000. The Education Department also offers courses for students who have already earned a Bachelors degree and want to transition to teaching through the Alternative Teacher Licensure in the following areas: Early Childhood (PreK-3rd Grade) Elementary (K-8) Secondary (7-12) Special Education (K-12) Students should refer to the Alternative Teacher Licensure for the recommended course sequence for each Alternative Teacher Licensure area. Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

EDUC 1102 - Introduction to Teaching: Theory and Lab

4 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950)

Introduces students to the professional world of teaching. Provides knowledge about various issues and challenges that are important in teachers' everyday lives. The lab experience will afford students the opportunity to observe and learn teaching practices in real classroom environments.
Note(s)

- 45 lab hours

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

Term 2

EDUC 2204 - Child Development

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 + appropriate placement scores)

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.

or

EDUC 2207 - Educational Psychology

3 credit hour(s) (Prerequisites: ENG 0950 or appropriate placement scores.)

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about learning and instruction in classrooms and how theories of learning are connected to classroom situations.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

MATH 1110 - Math for Teachers I

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0930 + RDG 0750 or appropriate placement scores)

Investigates the representation of rational numbers and rational number of arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Explanation and problem solving is emphasized throughout.

Term 3

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

or

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

or

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

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; connections to coordinate geometry. Problem solving is emphasized throughout.

or

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

- **Laboratory Science Requirement 4 credit hour(s)**

Term 4

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

- **Laboratory Science Requirement 4 credit hour(s)**

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

MUS 1140 - Modern Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

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

Term 5

HIST 2260 - History of New Mexico

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys New Mexico's history from 1500 to the present: contributions of the interactions among Native Americans, Hispanics, Anglos and others.

- **Laboratory Science Requirement 4 credit hour(s)**
- **Social/Behavioral Science Approved Elective 3 credit hour(s)**

Associate of Arts in Teacher Education, Elementary Concentration 61 credit hour(s)

* Recommended for transfer.

Program Approved Electives

Social/Behavioral Science Electives

Select from at least two different subject areas.

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Teacher Education (AA), Secondary Concentration

School of Communication, Humanities & Social Sciences (CHSS)

Description

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

Special Requirements

Students may be required to undergo a TB test and 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. For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Teacher licensure regulations determine eligible vocational/technical areas for the Career and Technical concentration. Students seeking this degree and/or intending to transfer to ENMU's online program in Professional Technical Education must be advised by the program director.

Native Spanish speakers or speakers of Native American languages should contact program director for options to SPAN requirements for the Bilingual Elementary Concentration.

Career and Educational 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 bachelors degrees in education. The Career and Technical Education concentration is specifically articulated for transfer to Eastern New Mexico University's online Bachelors degree in Professional Technical 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 national and state trend in Career and Technical education in high schools has also increased the demand for skilled Career and Technical educators. The starting salary for teachers in New Mexico public schools is $30,000. Within 7 years of teaching, teachers can move to a salary of $50,000.

The Education Department also offers courses for students who have already earned a Bachelors degree and want to transition to teaching through the Alternative Teacher Licensure in the following areas:

- Early Childhood (PreK-3rd Grade)
- Elementary (K-8)
- Secondary (7-12)
- Special Education (K-12)

Students should refer to the Alternative Teacher Licensure for the recommended course sequence for each Alternative Teacher Licensure area.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- MATH 1310
- Reading 2 Proficiency

Term 1

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

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

Term 2

- Biological/Physical Science Approved Elective 4 credit hour(s)

EDUC 2204 - Child Development

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 + appropriate placement scores)

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.

or

EDUC 2207 - Educational Psychology

3 credit hour(s) (Prerequisites: ENG 0950 or appropriate placement scores.)

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about learning and instruction in classrooms and how theories of learning are connected to classroom situations.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

Term 3

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

or

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.
Note(s)

- Fall and summer only

or

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

- Biological/Physical Science Approved Elective **4 credit hour(s)**

EDUC 1102 - Introduction to Teaching: Theory and Lab

4 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950)

Introduces students to the professional world of teaching. Provides knowledge about various issues and challenges that are important in teachers' everyday lives. The lab experience will afford students the opportunity to observe and learn teaching practices in real classroom environments.
Note(s)

- 45 lab hours

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

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

Term 4

- Biological/Physical Science Approved Elective **4 credit hour(s)**

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

HIST 2260 - History of New Mexico

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys New Mexico's history from 1500 to the present: contributions of the interactions among Native Americans, Hispanics, Anglos and others.

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

MUS 1140 - Modern Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

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

Associate of Arts in Teacher Education, Secondary Concentration 61 credit hour(s)

Students should consult an academic advisor or the program director on selecting electives as choices may be influenced by teacher licensure requirements for different secondary content areas.

* Recommended for transfer to UNM

Program Approved Electives

Biological/Physical Science

Must be from three different subject areas.

ASTR 1110 - Introduction to Astronomy II

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0940 or appropriate placement scores)

Explores life cycles of stars and stellar systems and the structure of the universe. Focuses on the births, lives and deaths of stars; the nature of the Milky Way galaxy and current concepts on cosmology and the large-scale structure of the universe.

ASTR 1192 - Astronomy Lab

1 credit hour(s) (Pre- or corequisite: ASTR 1110)

Investigates in optional laboratory setting the principles discussed in ASTR 1110.
Note(s)

- 45 lab hours

BIO 1010 - Biology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1092 - Biology for Non-Majors Lab

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

BIO 1110 - Environmental Science

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

BIO 1192 - Environmental Science Laboratory

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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

or

BIO 1310 - Human Anatomy and Physiology for Non-Majors

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

BIO 1392 - Human Anatomy and Physiology for Non-Majors Laboratory

1 credit hour(s) (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

EPS 1101 - Introduction to Geology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

EPS 1192 - Introduction to Geology Laboratory

1 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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.

GEOG 1101 - Physical Geography

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores)

Introduces the physical elements of world geography through study of climate and weather, vegetation, soils, plate tectonics and the various landforms as well as the environmental cycles and distributions of these components with emphasis on their significance to humans.

GEOG 1192 - Physical Geography Lab

1 credit hour(s) (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.

Electives Below Highly Recommended for Those Interested in Teaching Math or Science

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

or

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

PHYS 1510 - Physics I

4 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1315 or MATH 1415 or MATH 1460) (Recommended course: 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.

PHYS 1592 - Physics I Laboratory

1 credit hour(s) (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

or

PHYS 1710 - Physics for Scientists and Engineers I

4 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: PHYS 1792)* (Pre- or corequisite: MATH 1710)

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.

PHYS 1792 - Physics for Scientists and Engineers I Laboratory

1 credit hour(s) (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

Social/Behavioral Sciences

Select from at least two different subject areas.

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Teacher Education (AA), Special Education Concentration

Description

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 Early Childhood Multicultural Education (AA), Birth-3rd Grade Teacher Concentration.

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

Special Requirements

Students may be required to undergo a TB test and 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. For courses offered only for credit / no credit, a grade of credit (CR) must be earned.

Teacher licensure regulations determine eligible vocational/technical areas for the Career and Technical concentration. Students seeking this degree and/or intending to transfer to ENMU's online program in Professional Technical Education must be advised by the program director.

Native Spanish speakers or speakers of Native American languages should contact program director for options to SPAN requirements for the Bilingual Elementary Concentration.

Career and Educational 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 bachelors degrees in education. The Career and Technical Education concentration is specifically articulated for transfer to Eastern New Mexico University's online Bachelors degree in Professional Technical 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 national and state trend in Career and Technical education in high schools has also increased the demand for skilled Career and Technical educators. The

starting salary for teachers in New Mexico public schools is $30,000. Within 7 years of teaching, teachers can move to a salary of $50,000.

The Education Department also offers courses for students who have already earned a Bachelors degree and want to transition to teaching through the Alternative Teacher Licensure in the following areas:

- Early Childhood (PreK-3rd Grade)
- Elementary (K-8)
- Secondary (7-12)
- Special Education (K-12)

Students should refer to the Alternative Teacher Licensure for application and program information.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Exit competencies (see Program Exit Competencies) for this program of study are available at cnm.edu/exitcomp.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency **or**
- MATH 1310
- Reading 2 Proficiency

Term 1

EDUC 2265 - Computers in Schools

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores, Recommended prerequisite: IT 1010)

Applies constructivist learning theory to educational technology. Examines the impact of technology on the changing role of the teacher. Appropriate for students with intermediate to advanced levels of computer literacy.

or

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

SPED 2201 - Education of the Exceptional Person

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: SPED 2290)

Surveys the characteristics and educational needs of exceptional children, including definition, etiology, characteristics and various educational alternatives for each of the exceptionalities.

SPED 2290 - Introduction to Special Education

2 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores) (Corequisite: SPED 2201)

Provides field experience and seminar in special education settings. Students must pass a background check to successfully complete the course requirements.

Term 2

EDUC 2204 - Child Development

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 + appropriate placement scores)

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.

or

EDUC 2207 - Educational Psychology

3 credit hour(s) (Prerequisites: ENG 0950 or appropriate placement scores.)

Introduces the basic principles of learning, including cognition, motivation and assessment. Provides an important framework for thinking about learning and instruction in classrooms and how theories of learning are connected to classroom situations.

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

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HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

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HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

MATH 1110 - Math for Teachers I

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0930 + RDG 0750 or appropriate placement scores)

Investigates the representation of rational numbers and rational number of arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Explanation and problem solving is emphasized throughout.

Term 3

ARTH 1101 - Introduction to Art

3 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 or appropriate placement scores)

Presents fundamental concepts of visual arts - the language of form and media of artistic expression. Possible museum exhibition attendance.

or

ARTH 2201 - History Of Art I

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Near Eastern, Egyptian, Greek, Roman, early Christian, Byzantine, early Medieval, Romanesque and Gothic art and architecture.

Note(s)

- Fall and summer only

or

ARTH 2202 - History Of Art II

3 credit hour(s) (Prerequisites: RDG 0950 + ENG 0950 or appropriate placement scores)

Surveys Italian and Northern Renaissance, Baroque, Rocco and 19th century Western European painting, sculpture and architecture.
Note(s)

- Spring and summer only

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; connections to coordinate geometry. Problem solving is emphasized throughout.

or

MATH 1315 - College Algebra

3 credit hour(s) (Prerequisite: MATH 1310 or appropriate placement scores)

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.

HIST 1101 - Western Civilization I

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Emphasizes events, personalities, issues, rises and falls, covering ancient times through 1648.

or

HIST 1102 - Western Civilization II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Explores such topics as colonialism, the age of revolutions, expansionism and the Great Wars from 1648 to the present.

or

HIST 1161 - History of the United States I

3 credit hour(s) (Prerequisite:RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys economic, political, intellectual and social development of the U.S. from 1492 to 1877.

or

HIST 1162 - History of the United States II

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Continues study begun in HIST 1161, covering 1865 to the present.

- **Laboratory Science Requirement 4 credit hour(s)**

Term 4

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

or

COMM 2270 - Communication Studies for Teachers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Introduces systems approach to class room communication at any level, providing a means to analyze, develop and facilitate effective communication.

- **Laboratory Science Requirement 4 credit hour(s)**

MUS 1139 - Early Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

MUS 1140 - Modern Music Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

or

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

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

Term 5

HIST 2260 - History of New Mexico

3 credit hour(s) (Prerequisites: RDG 0950 or appropriate placement scores, Recommended prerequisite: ENG 1101)

Surveys New Mexico's history from 1500 to the present: contributions of the interactions among Native Americans, Hispanics, Anglos and others.

- **Laboratory Science Requirement 4 credit hour(s)**

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

Associate of Arts in Teacher Education, Special Education Concentration 62 credit hour(s)

* Recommended for transfer.

Program Approved Electives

Social/Behavioral Science Electives

Select from at least two different subject areas.

ANTH 1101 - Intro Anthropology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Surveys the breadth of anthropology, including archaeology, biological anthropology, cultural anthropology and linguistic anthropology.

ANTH 1130 - Cultures of the World

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

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.

ECON 2200 - Macroeconomics

3 credit hour(s) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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) (Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)

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.

PSCI 1110 - The Political World

3 credit hour(s) (Prerequisite: RDG 0950) (Recommended course: ENG 1101)*

Introduces politics, emphasizing how people can understand their own political systems and those of others.
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 2200 - U.S. Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: ENG 1102)*

Surveys American politics: theory of democracy and political institutions, governmental branches and their bureaucracies.

* This course involves an intensive writing component.

PSCI 2220 - Comparative Government and Politics

3 credit hour(s)

(Prerequisite: RDG 0950)(Recommended course: 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 Fall and Spring term only.

PSCI 2240 - International Politics

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: 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.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

SOC 1101 - Introduction To Sociology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)

Introduces basic concepts and theories of contemporary sociology: culture, socialization, social groups, deviance, race and ethnicity gender, age, family, medicine and religion.

Theatre

Theatre, Associate of Arts

School of Communication, Humanities & Social Sciences (CHSS)

Description

This is a two-year degree intended for students pursuing professional acting careers or continuing on to a university to complete a bachelor's degree in Theatre.

Career and Educational Opportunities

Students will be able to transfer to a bachelor's degree program in Theatre. Students gaining skill sets through the Theatre coursework will have opportunities to work in local theatres or pursue acting careers in the growing film industry in New Mexico.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency

- MATH 1210

or

- MATH 1310

- Reading 2 Proficiency

Term 1

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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

- **Humanities Requirement 3 credit hour(s)**

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

THEA 1122 - Theatre Appreciation

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

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.

Term 2

ENG 1102 - Analytic and Argumentative Writing

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores).

Emphasizes analytic and argumentative writing with reading and research in exposition and literature.

- **Modern Language Elective 4 credit hour(s)** (except SPAN 2280)

- **Laboratory Science Requirement 4 credit hour(s)**

THEA 1119 - Introduction to Technical Theatre

3 credit hour(s)

(Prerequisite: RDG 0950 or appropriate placement scores)

Introduces students to hands-on training in areas of technical play production, including stagecraft set and property construction, painting, lights, costumes, and sound.
Note(s)

- Typically offered Fall semester only.

THEA 1120 - Beginning Acting

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores)(Recommended course: THEA 1122)

Provides students with the fundamental physical, vocal and imaginative skills for acting and performing.

Term 3

COMM 1130 - Public Speaking

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores. Recommended Prerequisite: ENG 1101)

Focuses on organizing and delivering (speaker skills), listening and responding (audience skills) and theory and practical application of various types of presentations.

or

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

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

THEA 1121 - Beginning Acting II

3 credit hour(s) (Prerequisite: THEA 1120 or department approval + RDG 0950 or appropriate placement scores)

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 1290 - Theatre Practicum I

1 credit hour(s) (Prerequisite: RDG 0950) (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 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.

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) (Prerequisite: RDG 0950 or appropriate placement scores + THEA 1120 or department approval)

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.

or

THEA 2258 - Beginning Screenwriting: Short Form

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores) (Recommended course: 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 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.

Associate of Arts in Theatre 61-62 credit hour(s)

Truck Driving

Class B CDL, Certificate of Achievement

School of Applied Technologies (AT)

Description

Provides students basic instruction required to earn a either a Class A or Class B Commercial Driver's License (CDL) to become a professional commercial truck driver.

Students learn how to operate a tractor-trailer or Class B 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 and a PTDI certificate. Class B students will receive a CNM Certificate of Achievement. This program meets federal regulation requirements for entry-level drivers.

Lab courses are held at off-campus locations.

Special Requirements

Students are expected to purchase textbooks and possibly small assistive equipment such as work gloves and a flashlight.

Physical requirements

- All students must pass a DOT physical and drugscreen. All students will be required to be subject to random DOT drugscreens as well. Students must be able to work in all weather conditions, climb, and stand for long periods as the lab classes are conducted outside.

Other course requirements

- Be at least 18 years old
- Have a valid New Mexico driver's license
- Have maintained a valid driver's license for the previous three (3) years (some exceptions allowed, contact department)
- Provide original birth certificate (or proof of citizenship or Lawful Permanent Residency)
- Provide original social security card
- Provide a certified copy of driving record for the past three (3) years
- Have a Department of Transportation physical at a qualified testing facility
- Obtain pre-qualification testing for controlled substances use
- Not have been convicted of or forfeited bond for more than four (4) moving violations in the past three years
- Not have more than one at-fault, preventable accident in the past three (3) years
- Not have been convicted of or forfeited bond for reckless driving
- Not have any DWI/DUI convictions within the past five (5) years
- Not have more than one (1) DWI/DUI conviction in the past ten (10) years
- Not have more than two (2) DWI/DUI convictions within a lifetime
- Must be a U.S. citizen or Lawful Permanent Resident of the United States of America
- Students are subject to ALL Federal Motor Carriers Safety Regulations drug and alcohol testing rules

Information for people with felony convictions

- A felony conviction will not prevent entry into the program, obtaining a CDL, or employment; however, it may limit available employment opportunities. In addition, depending upon the type of felony conviction and the age of the conviction, the student may not be able to obtain a Hazardous Materials endorsement if they are looking for this. Information on the Hazardous Materials limitations are available with the department or on the New Mexico MVD website.

Cost and Financial Aid

Financial Aid considerations

- The Truck Driving Program is not eligible for Federal Financial Aid. There are some possible outside funding options (ie VA, DVR...). For more information go to http://www.cnm.edu/depts/financial-aid

- For a list of programs and courses that may not be eligible for financial aid you may go to: **http://www.cnm.edu/depts/financial-aid/requirements/ineligible-programs**

Approximate Cost of Program

- In district $150-300
- Out of district $700-1000
- Out of State $2,000-$2,500

Books and Fees (not including tuition)

- Approximately $565 - $765

Tools

- Approximately $20

Career and Educational Opportunities

Educational Opportunities

This is a terminal certificate option and leads directly to employments. Transferability to other institutions is dependent upon that particular institution.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Jobs are available with various types of trucking companies, including local delivery, in-state routes and over-the road (regional and 48 states) opportunities.

- **Gainful Employment** information is available from **Job Connection Services**.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- **High School Diploma or Equivalent**
- English 1 Proficiency
- Math 1 Proficiency

- Reading 1 Proficiency

Term 1

TRDR 1420 - Class B Theory and Operational Practices

9 credit hour(s) (Prerequisite: MATH 0750 + RDG 0750)

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)

- Valid NM Driver's License
- Held a valid driver's license for at least 3 years (some exceptions allowed, contact department)
- Be able to present a valid birth certificate or proof of citizenship
- Be able to present a valid social security card
- No more than 4 moving traffic violations in the last 3 years
- No conviction of or forfeiture of bond for reckless driving
- No more than one at fault preventable accident in the last 3 years
- No DUI/DWI in the last five (5) years
- No more than one (1) DUI/DWI in the last five (5) years
- No more than two (2) DUI/DWI in a lifetime
- Must be a US Citizen or Lawful Permanent Resident

Certificate of Achievement in Class B CDL 9 credit hour(s)

Truck Driving, Certificate of Achievement

School of Applied Technologies (AT)

Description

Provides students basic instruction required to earn a either a Class A or Class B Commercial Driver's License (CDL) to become a professional commercial truck driver.

Students learn how to operate a tractor-trailer or Class B 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 and a PTDI certificate. Class B students will receive a CNM Certificate of Achievement. This program meets federal regulation requirements for entry-level drivers.

Lab Courses are held at off-campus locations.

Special Requirements

Students are expected to purchase textbooks and possibly small assistive equipment such as work gloves and a flashlight.

Physical requirements

- All students must pass a DOT physical and drugscreen. All students will be required to be subject to random DOT drugscreens as well. Students must be able to work in all weather conditions, climb, and stand for long periods as the lab classes are conducted outside.

Other course requirements

- Be at least 18 years old
- Have a valid New Mexico driver's license
- Have maintained a valid driver's license for the previous three (3) years (some exceptions allowed, contact department)
- Provide original birth certificate (or proof of citizenship or Lawful Permanent Residency)
- Provide original social security card
- Provide a certified copy of driving record for the past three (3) years
- Have a Department of Transportation physical at a qualified testing facility
- Obtain pre-qualification testing for controlled substances use
- Not have been convicted of or forfeited bond for more than four (4) moving violations in the past three years
- Not have more than one at-fault, preventable accident in the past three (3) years
- Not have been convicted of or forfeited bond for reckless driving
- Not have any DWI/DUI convictions within the past five (5) years
- Not have more than one (1) DWI/DUI conviction in the past ten (10) years
- Not have more than two (2) DWI/DUI convictions within a lifetime
- Must be a U.S. citizen or Lawful Permanent Resident of the United States of America
- Students are subject to ALL Federal Motor Carriers Safety Regulations drug and alcohol testing rules

Information for people with felony convictions

- A felony conviction will not prevent entry into the program, obtaining a CDL, or employment; however, it may limit available employment opportunities. In addition, depending upon the type of felony conviction and the age of the conviction, the student may not be able to obtain a Hazardous Materials endorsement if they are looking for this. Information on the Hazardous Materials limitations are available with the department or on the New Mexico MVD website.

Cost and Financial Aid

Financial Aid considerations

- The Truck Driving Program is not eligible for Federal Financial Aid. There are some possible outside funding options (ie VA, DVR...). For more information go to http://www.cnm.edu/depts/financial-aid
- For a list of programs and courses that may not be eligible for financial aid you may go to: **http://www.cnm.edu/depts/financial-aid/requirements/ineligible-programs**

Approximate Cost of Program

- In district $150-300
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Tools

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Career and Educational Opportunities

Educational Opportunities

This is a terminal certificate option and leads directly to employments. Transferability to other institutions is dependent upon that particular institution.

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.

Employment Information

Jobs are available with various types of trucking companies, including local delivery, in-state routes and over-the road (regional and 48 states) opportunities.

- **Gainful Employment** information is available from **Job Connection Services**.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course

work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

TRDR 1120 - Basic Operational Theory and Practices

6 credit hour(s) (Prerequisite: MATH 0750 + RDG 0750)

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 received a minimum of 10 hours behind-the-wheel driving time.
Note(s)

- Valid NM Driver's License
- Held a valid driver's license for at least 3 years (exceptions exist, contact department)
- Be able to obtain and present original birth certificate or proof of citizenship
- Be able to obtain and present valid Social Security Card
- Be able to take and pass DOT physical
- Be able to take and pass DOT Drug Screen
- No more than 4 moving violations in the last 3 years
- No conviction or forfeiture of bond for reckless driving
- No more than one at fault preventable accident in the last 3 years
- No DUI/DWI in the last five (5) years
- No more than one (1) DUI/DWI in the last 10 years
- No more than two (2) DUI/DWI in a lifetime
- MUST be a US Citizen or Lawful Permanent Resident
- 60 theory hours
- 90 lab hours

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 + departmental 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

Certificate of Achievement in Truck Driving 14 credit hour(s)

Veterinary Technology

Veterinary Technology, Associate of Applied Science

School of Health, Wellness & Public Safety (HWPS)

Description

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.

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.

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

Employment opportunities for Registered Veterinary Technicians in New Mexico are excellent. RVTs work in private clinical veterinary practices, animal control and animal humane centers, zoos and wildlife facilities, diagnostic laboratories, biomedical facilities, federal positions, and institutions of higher learning as well as in other areas involving animal care. In some jobs, the academic training allows for rapid advancement into management positions with commensurate higher pay.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Assessment Cycle Plans and Reports for this program of study are available.

For the graduation policy refer to the Graduating From CNM section, cnm.edu or the Students tab in my CNM.

Required Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- Coordinated Entry Program
- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Required Program Courses

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

BIO 1410 - Biology for Health Sciences

3 credit hour(s)

(Prerequisite: RDG 0950) (Recommended course: CHEM 1410)*

Presents principles of cell biology, cell chemistry, genetics and organismic biology with an emphasis on human systems.

*A working knowledge of basic chemistry is useful in this course.

and

BIO 1492 - Biology for Health Sciences Laboratory

1 credit hour(s) (Prerequisite: MATH 0930 or appropriate placement scores) (Pre- or corequisite: BIO 1410)

Introduces exercises and demonstrations related to cell biology, biochemical processes and genetics.
Note(s)

- 45 lab hours

or

BIO 1510/1592 - Molecular and Cell Biology w/Laboratory

4 credit hour(s) (Pre- or corequisite: CHEM 1710 + CHEM 1792)

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
- 45 lab hours

CHEM 1410 - Introduction to Chemistry

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 0930 or appropriate placement scores)(Recommended course: 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.

and

CHEM 1492 - Introduction to Chemistry Laboratory

1 credit hour(s) (Pre- or corequisite: CHEM 1410)

Introduces experiments complementing CHEM 1410.
Note(s)

- 45 lab hours

or

CHEM 1710 - General Chemistry I

3 credit hour(s)

(Prerequisite: RDG 0950 + MATH 1310) (Recommended course: 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.

and

CHEM 1792 - General Chemistry I Lab

1 credit hour(s) (Prerequisite: RDG 0950 + MATH 1310 or appropriate placement scores) (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

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

PSY 1105 - Introduction to Psychology

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement score)

Introduces psychology as the scientific study of behavior and mental processes: methodology, psychobiology, learning, memory, personality, psychological disorders, therapy, personality and social psychology.

Term 1 (Fall Only)

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 advisor for more information.

- **Program Approved Elective 1-2 credit hour(s)**

VT 1004 - Veterinary Medical Terminology

1 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 + MATH 0930; or appropriate placement scores)

Introduces veterinary medical word parts and terminology, basic animal science terminology. Includes study of phylogenetic and taxonomic relationships of domestic, laboratory and exotic animals to other biologic kingdoms and humans.

VT 1006 - Veterinary Office Skills

1 credit hour(s) (Prerequisite: BIO 1410 + BIO 1492 or BIO 1510/1592 + CHEM 1410 + CHEM 1492 or CHEM 1710 + CHEM 1792 + ENG 1101 + IT 1010 + MATH 1210 or higher + department approval) (Pre- or corequisite: VT 1004 + VT 1010) (Corequisite: VT 1008 + VT 1012 + VT 1070)

Covers general office management information including basic bookkeeping and computer skills. This includes; telephone contacts, scheduling and prioritizing appointments, recognizing veterinary emergencies, effective client communication, crisis intervention and grief management, patient admission, history and discharge, maintaining records and filing various types of reports and documents.

VT 1008 - Applied Mathematics for Veterinary Technicians

1 credit hour(s)

(Corequisite: VT 1006 + VT 1012 + VT 1070)

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.
Note(s)

- Typically offered Fall term only.

VT 1010 - Introduction to Veterinary Technology

2 credit hour(s) (Prerequisite: RDG 0950 + ENG 0950 + MATH 0930 or appropriate placement scores)

Provides general overview of Veterinary Technology including ethics and professionalism. This course includes identifying breeds and introduces basic medical care techniques used for animals. There is also an emphasis on medical terminology.

VT 1012 - Introduction to Animal Care

2 credit hour(s)

(Corequisite: VT 1006 + VT 1008 + VT 1070)

Provides discussion and presentation of animal handling and restraint, with both on campus procedural laboratory time and field trips to various animal facilities, incorporating and enlarging on the introductory theory from VT 1010 - Introduction to Veterinary Technology, 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) (Corequisite: VT 1006 + VT 1008 + VT 1012)

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

Term 2

VT 1210 - Animal Comparative Anatomy and Physiology II

3 credit hour(s) (Prerequisite: VT 1004 + VT 1006 + VT 1008 + VT 1010 + VT 1012 + VT 1070) (Corequisite: VT 1251 + VT 1252 + VT 1272 + VT 1292)

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 theory credit hour(s) (Corequisites: VT 1210 + VT 1252 + VT 1272 + VT 1292)

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 1252 - Radiology for Veterinary Technicians Laboratory

1 lab credit hour(s) (Corequisites: VT 1210 + VT 1251 + VT 1272 + VT 1292)

Introduces exercises and demonstrations related to veterinary radiology. Includes field trips, exercises and demonstrations at veterinary clinics.
Note(s)

- 45 lab hours

VT 1272 - Surgical Technology for Veterinary Technicians

2 credit hour(s) (Corequisite: VT 1210 + VT 1251 + VT 1252 + VT 1292)

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 Skills Lab

1 credit hour(s) (Corequisite: VT 1210 + VT 1251 + VT 1252 + VT 1272)

Continues the study of 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

Term 3

VT 2010 - Clinical Pathology for Veterinary Technicians I

4 credit hour(s) (Prerequisite: VT 1210 + VT 1251 + VT 1252 + VT 1272 + VT 1292) (Corequisite: VT 2015 + VT 2180)

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 2010 + VT 2180)

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 2180 - Veterinary Technology Clinical I

4 credit hour(s) (Corequisite: VT 2010 + VT 2015)

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

Term 4

VT 2610 - Clinical Pathology for Veterinary Technicians II

4 credit hour(s) (Prerequisite: VT 2010 + VT 2015 + VT 2180) (Corequisite: VT 2651 + VT 2652 + VT 2674 + VT 2690)

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 theory credit hour(s)

(Corequisites: VT 2610 + VT 2652 + VT 2674 + VT 2690)

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 2652 - Anesthesiology For Veterinary Technicians Lab

1 credit hour(s) (Corequisites: VT 2610 + VT 2651 + VT 2674 + 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 2674 - Applied Therapeutics and Care for Veterinary Technicians I

3 credit hour(s) (Corequisite: VT 2610 + VT 2651 + VT 2652 +VT 2690)

Presents skills such as venipuncture, medication administration, IV therapy, bandaging and splinting, catheterization techniques, recumbent patient care and blood transfusions.
Note(s)

- 30 theory hours
- 45 lab hours

VT 2690 - Veterinary Technology Clinical II

4 credit hour(s) (Corequisite: VT 2610 + VT 2651 + VT 2652 +VT 2674)

Applies theory to practice at clinics, performing hands-on duties that include: specimen collection, urinalysis, parasite evaluation, wound management, administration of medication, IV catheterization, venipuncture and client education.
Note(s)

- 180 clinical hours

Term 5

VT 2803 - Pharmacology for Veterinary Technicians

3 credit hour(s) (Prerequisite: VT 2610 + VT 2651 + VT 2652 + VT 2674 + VT 2690) (Corequisite: VT 2810 + VT 2884 + 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 2810 - Veterinary Technology Clinical III

5 credit hour(s) (Corequisite: VT 2803 + VT 2884 + VT 2892)

Applies theory to practice at veterinary clinics performing duties that includes handling, therapeutics and care of laboratory and exotic animals, surgical assisting and hematological exams.
Note(s)

- 15 theory hours
- 180 clinical hours

VT 2884 - Applied Therapeutic II Avian Laboratory Exotic and Large Animals

4 credit hour(s) (Corequisite: VT 2803 + VT 2810 + 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 2892 - Dentistry for Veterinary Technicians

1 credit hour(s) (Prerequisite: VT 2690) (Corequisite: VT 2803 + VT 2810 + 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

Associate of Applied Science in Veterinary Technology 79-81 credit hour(s)

Program Approved Electives

VT 1001 - Animal Science Terminology

1 theory credit hour(s) Introduces students to terminology used in a career in animal agriculture or veterinary medicine. Curriculum and instruction presents an overview of topics taught in introductory animal science courses with terms specific to species involved in animal science production and terms related to companion animals.

VT 1003 - Preparation for Professional Success

1 theory credit hour(s) (Recommended Prequisite: IT 0850)

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 1192 - Supplemental Lab

3 credit hour(s)

(Pre- or corequisite: VT 1006)

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)

- Typically offered Fall and Spring term only.

VT 2592 - Advanced Supplemental Lab for Veterinary Technology (CR/NC)

1 credit hour(s) (Pre- or corequisite: VT 1006)

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.
Note(s)

- 45 lab hours

Welding

Welding Technology, Associate of Applied Science

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

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. Career Opportunities in Welding Gainful Employment information is available from Job Connection Services. Available jobs include construction, energy and manufacturing. This degree prepares graduates for career

advancement and increased earning potential. Exit competencies for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 2 Proficiency
- Math 2 Proficiency
- Reading 2 Proficiency

Term 1

WELD 1005 - Welding Blueprint Reading I

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 1030 - Welding Math

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores or department approval)

Provides instruction in area, perimeter and volumes of common structural shapes and common layout techniques supported with mathematical applications.

WELD 1050 - Oxyacetylene Welding and Cutting

2 credit hour(s)

(Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 1150 - Introduction to SMAW

2 credit hour(s)

(Prerequisite: ENG 0750 + MATH 0750 + RDG 0750) (Pre- or corequisite: WELD 1050 or appropriate placement scores 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 1250 - Introduction to GTAW and Fabrication Lab

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750) (Pre- or corequisites: WELD 1050 or appropriate placement scores 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 1350 - Introduction to GMAW and Fabrication

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750) (Pre- or corequisites: WELD 1050 or appropriate placement scores 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

Term 2

IT 1010 - Introduction to Computers

3 credit hour(s) (Prerequisite: RDG 0950 or appropriate placement scores) (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, databases and the basics of using networked computers (e.g., e-mail and the Internet).
Note(s)

- This course will be taught in a computer lab.

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 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 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 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 thory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1692

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 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.

Term 3

CAD 1001 - Basics Of CAD

1 credit hour(s) (Pre- or corequisite: IT 1010)

Introduces the fundamentals of computer aided drafting.
Note(s)

- 10 theory hours
- 15 lab hours

ENG 1101 - College Writing

3 credit hour(s) (Prerequisite: ENG 0950 + RDG 0950 or appropriate placement scores)

Emphasizes text-based essay composition, including critical reading, summary writing and synthesis.

WELD 1062 - Welding Fundamentals

3 credit hour(s) (Recommended prerequisite: AUTC 1240 + DETC 1240 + MATT 1240 + PLMB 1235)

Designed for non-Welding majors, 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.
Note(s)

- 135 lab hours

or

MATT 1060 - Machine Tool Technology Skills

3 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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)

or

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.

or

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 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 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 1370 - Qualifications fo 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 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

Term 4

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

COMM 2221 - Interpersonal Communication Studies

3 credit hour(s) (Prerequisite: ENG 1101 or appropriate placement scores)

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.

- **Humanities/Fine Arts Requirement 3 credit hour(s)**

or

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

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 applicatoin 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.

or

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.

and

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.

and

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 ESH 2018.

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 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 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.

Associate of Applied Science in Metals Technology, Welding Concentration 62-63 credit hour(s)

Welding, Certificate of Completion

School of Applied Technologies (AT)

Description

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.

Career and Educational Opportunities

Gainful Employment information is available from Job Connection Services. Available jobs in Welding include construction, energy and manufacturing. Exit competencies for this program of study are available at cnm.edu/exitcomp. For the graduation policy refer to the Graduating From CNM section.

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

Recommended Sequence of Courses

Program Proficiencies and/or Prerequisites

Students must demonstrate proficiency in these areas either by placement exam, scores or specific course work.

- English 1 Proficiency
- Math 1 Proficiency
- Reading 1 Proficiency

Term 1

WELD 1005 - Welding Blueprint Reading I

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 1030 - Welding Math

3 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores or department approval)

Provides instruction in area, perimeter and volumes of common structural shapes and common layout techniques supported with mathematical applications.

WELD 1050 - Oxyacetylene Welding and Cutting

2 credit hour(s)

(Prerequisite: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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 1150 - Introduction to SMAW

2 credit hour(s)

(Prerequisite: ENG 0750 + MATH 0750 + RDG 0750) (Pre- or corequisite: WELD 1050 or appropriate placement scores 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 1250 - Introduction to GTAW and Fabrication Lab

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750) (Pre- or corequisites: WELD 1050 or appropriate placement scores 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 1350 - Introduction to GMAW and Fabrication

2 credit hour(s) (Prerequisite: ENG 0750 + MATH 0750 + RDG 0750) (Pre- or corequisites: WELD 1050 or appropriate placement scores 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

Term 2

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 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 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 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 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 thory hours
- 45 lab hours
- 15 hours additional instruction per term
- Previously WELD 1692

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

Term 3

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 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 1370 - Qualifications fo 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 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

MATT 1060 - Machine Tool Technology Skills

3 credit hour(s) (Prerequisites: ENG 0750 + MATH 0750 + RDG 0750 or appropriate placement scores 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)

or

WELD 1062 - Welding Fundamentals

3 credit hour(s) (Recommended prerequisite: AUTC 1240 + DETC 1240 + MATT 1240 + PLMB 1235)

Designed for non-Welding majors, 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.
Note(s)

- 135 lab hours

or

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.

or

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*.

Certificate of Completion in Welding 38 credit hour(s)

Catalog Corrections Statement

A catalog change was made per catalog corrections team.

Cost and Financial Aid Language

Financial Aid and Scholarship Services offer assistance to students paying for college. Students can set up payment plans as well as other services.

- Tuition Information
- Net Price Calculator
  To help you identify your total cost of attending CNM

Gainful Employment

- Gainful Employment information is available from Job Connection Services.

Gainful Employment Information Language

- Gainful Employment information is available from Job Connection Services.
- Direct Subsidized Loans: 150 percent rule.

HWPS - Criminal Background Language

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.

HWPS - Other Compliance Requirements Language

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.

HWPS - Program Entry Registration Screening Language

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.

HWPS - Program Fees Language

Program Fees

Program fees cover costs incurred on behalf of the student for student-issued equipment, background checks, drug screens, etc.

Transfer Language

Many of our courses are transferable to universities and CNM currently has transfer agreements with many colleges in New Mexico.